

Barco Galaxy WARP™



Owner's Manual

R9040320

Barco nv Simulation Products
600 Bellbrook Ave, Xenia OH 45385
Phone: +1 (937) 372 7579
Fax: +1 (937) 372 8645
E-mail: eis@barco.com
Visit us at the web: www.eis.barco.com

Barco nv Simulation Products
Noordlaan 5, B-8520 Kuurne
Phone: +32 56.36.82.11
Fax: +32 56.36.84.86
E-mail: info@barco.com
Visit us at the web: www.barco.com

Copyright ©

All rights reserved. No part of this document may be copied, reproduced or translated. It shall not otherwise be recorded, transmitted or stored in a retrieval system without the prior written consent of Barco.

Changes

Barco provides this manual 'as is' without warranty of any kind, either expressed or implied, including but not limited to the implied warranties or merchantability and fitness for a particular purpose. Barco may make improvements and/or changes to the product(s) and/or the program(s) described in this publication at any time without notice.

This publication could contain technical inaccuracies or typographical errors. Changes are periodically made to the information in this publication; these changes are incorporated in new editions of this publication.

Trademarks

Brand and product names mentioned in this manual may be trademarks, registered trademarks or copyrights of their respective holders. All brand and product names mentioned in this manual serve as comments or examples and are not to be understood as advertising for the products or their manufactures.

Federal Communications Commission (FCC Statement)

This equipment has been tested and found to comply with the limits for a class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area may cause harmful interference, in which case the user will be responsible for correcting any interference.

TABLE OF CONTENTS

1. Safety Instructions	5
1.1 Warnings	5
1.2 FCC statement	5
1.3 Note	5
2. Packaging and Dimensions	7
2.1 Box Content	7
2.2 Lens Packaging	7
2.3 Dimensions	7
3. Installation Guidelines	9
3.1 General	9
3.2 Projector Position	10
3.3 Configuration	11
3.4 Safety Area around the projector	13
3.5 Re-adjusting the lamp position in the lamp casing	14
3.6 Lenses	16
3.6.1 Lenses	16
3.6.2 Lens selection	16
3.6.3 Lens formulas	16
3.6.4 Lens Installation	17
3.6.5 Cleaning the lens	17
3.7 Battery Installation in the RCU	18
4. Connections	19
4.1 Power connection	19
4.2 Switching On	19
4.3 Switching to standby	20
4.4 Switching off	20
4.5 Input Connections	21
4.5.1 Input Facilities	21
4.5.2 Input 1	21
4.5.3 Input 2	22
4.5.4 Inputs via RCVDS05	23
4.6 Communication Connections	23
4.6.1 Linked System	23
4.6.2 RS232 (RS422) connection	27
4.6.3 Communication with peripherals	27
4.7 Stereo Connections	27
4.7.1 Single Channel Stereo Connections	27
4.7.1.1 Left/Right Phasing Module (Input 3)	27
4.7.2 Multi-Channel Stereo Connections	28
4.7.2.1 Stereo Set Up	28
4.7.2.2 Single CADWall Configuration	29
4.7.2.3 Multiple CADWall (Showroom Installation)	30
5. Getting Started	33
5.1 RCU & Local keypad	33
5.2 Terminology overview	33
5.3 Operating the projector	35
5.3.1 Switching On	35
5.3.2 Switching to standby	36
5.3.3 Switching off	36
5.3.4 Temperature error DMD	36
5.4 Quick Set Up Adjustments	36
5.4.1 Quick Lens Adjustment	36
5.4.2 Quick OSD Color Change	37
5.5 Using the RCU	38
5.6 Controlling the Projector	42
5.6.1 Common Address	42
5.6.2 Projector Address	42
5.6.3 RCU Address	42
5.6.4 Input Selection	43
5.6.5 Picture Controls	43
5.6.6 Menus on Local LCD Display	44
6. Random Access	45
6.1 Random Access Overview	45
6.2 Starting Up Random Access	46
6.3 File Service	47
6.3.1 File annotation	47
6.3.2 Possible file manipulations	48
6.3.3 Starting Up File Service	48

6.3.4	Load File	48
6.3.5	Edit WARP1.....	49
6.3.6	Edit WARP2.....	50
6.3.7	Changing the settings	50
6.3.8	Correct value.....	51
6.3.9	Edit WARP2 File	53
6.3.10	Rename File	53
6.3.11	Copy File.....	54
6.3.12	Delete File	55
6.3.13	File Options	56
6.4	Picture Tuning	57
6.4.1	Starting Up Picture Tuning	57
6.4.2	Gamma	57
6.4.3	Input Balance 1	58
6.4.4	Input Balance 2	61
6.4.5	Windowing	61
6.4.5.1	Starting Up Windowing	62
6.4.5.2	Blanking (Windowing).....	62
6.4.5.3	Shift (Windowing)	64
6.4.5.4	Size (Windowing)	65
6.4.5.5	Geo Soft Edge	66
6.5	Geometry	66
6.5.1	Introduction	67
6.5.2	Starting Up Geometry	67
6.5.3	Geometry file annotation	67
6.5.4	Setting up a new Geometry file	67
6.5.5	Possible Geometry file manipulations	68
6.5.6	Load	68
6.5.7	Edit	69
6.5.7.1	Introduction.....	70
6.5.7.2	Start up	71
6.5.7.3	Coarse	71
6.5.7.3.1	Start up.....	71
6.5.7.3.2	Corner selection	71
6.5.7.3.3	Corner adjustment	72
6.5.7.3.4	Side Bow selection.....	74
6.5.7.3.5	Bow shaped pre-distortion set up	76
6.5.7.3.6	Coarse linearity adjustment using Side Bows	76
6.5.7.3.7	Center selection.....	78
6.5.7.3.8	Center adjustment	78
6.5.7.4	Linearity adjustment	79
6.5.7.4.1	Start up.....	79
6.5.7.4.2	Horizontal or Vertical Linearity selection	80
6.5.7.4.3	Horizontal Linearity adjustment	80
6.5.7.4.4	Vertical Linearity adjustment	82
6.5.7.5	Fine.....	83
6.5.7.5.1	Start up.....	84
6.5.7.5.2	Horizontal or Vertical Linearity selection	84
6.5.7.5.3	Fine Horizontal or Vertical Linearity adjustment	85
6.5.7.5.4	Bow Linearity selection	86
6.5.7.5.5	Bow Linearity adjustment.....	87
6.5.7.5.6	Quadrant selection.....	88
6.5.7.5.7	Quadrant adjustment	89
6.5.7.5.8	Local selection	90
6.5.7.5.9	Local adjustment.....	91
6.5.7.6	Shift.....	92
6.5.7.7	Transport Delay	92
6.5.7.8	Blanking	94
6.5.7.8.1	Blanking Start up.....	94
6.5.7.8.2	Blanking Active On.....	95
6.5.7.8.3	Blanking Shape Start up.....	95
6.5.7.8.4	Blanking Shape selections	95
6.5.7.8.5	Blanking adjustment	96
6.5.7.9	Electronic Soft Edge (Optional).....	97
6.5.7.9.1	Introduction.....	97
6.5.7.9.2	Preparations	98
6.5.7.9.3	Soft Edge Start up	99
6.5.7.9.4	Soft Edge Active On	99
6.5.7.9.5	Soft Edge Shape Start up	99
6.5.7.9.6	Soft Edge Shape selections	100
6.5.7.9.7	Basic Soft Edge Shape Set up	101
6.5.7.9.8	Soft Edge Width Start up	103
6.5.7.9.9	Soft Edge Width selections.....	103
6.5.7.9.10	Basic Soft Edge Width Set up	104
6.5.7.10	Reset	106
6.5.7.10.1	Start up.....	106

6.5.7.10.2 Coarse Reset	106
6.5.7.10.3 Linearity Reset	107
6.5.7.10.4 Reset Fine	107
6.5.7.10.5 Reset Blanking/Soft Edge	107
6.5.7.10.6 Reset All	108
6.5.8 Rename	109
6.5.9 Copy	110
6.5.10 Delete	110
6.6 Stereo Options	111
6.6.1 Starting Up Stereo Options	111
6.6.2 Stereo Phase	111
6.6.3 Invert Stereo	112
6.6.4 Master Channel	113
6.6.5 Stereo Mode	114
6.6.6 Dark Time	114
6.6.7 Forced Asynchronous	117
7. Installation Mode	119
7.1 Installation Mode Overview	119
7.2 Starting Up Installation	120
7.3 Input Slots	120
7.4 No Signal	121
7.4.1 Starting Up No Signal	121
7.4.2 Changing the Background Color	121
7.4.3 Changing the Shutdown Setting	122
7.4.4 Changing the Shutdown Time Setting	122
7.5 Lens Adjustment	123
7.5.1 Starting Up Lens Adjustment	123
7.5.2 Lens Zoom/Focus Adjustment	123
7.5.3 Lens Shift Adjustment	124
7.6 Changing the Menu Position	124
7.7 800-Peripheral	125
7.7.1 Starting Up 800-Peripheral	125
7.7.2 Defining the Communication Protocol of the RCVDS05	125
7.7.3 COM800 Protocol	126
7.8 Configuration	126
7.9 OSD Color	127
7.10 Internal Patterns	127
8. Service Mode	129
8.1 Service Mode Overview	129
8.2 Build-up	129
8.3 Starting Up Service	130
8.4 Identification Screen	130
8.5 Change Password	131
8.6 Change Projector Address	131
8.6.1 Starting Up Change Projector Address	132
8.6.2 Changing the Projector Address	132
8.6.3 Changing the Common Address	133
8.7 Change Baudrate PC	133
8.8 Lamp Menu	134
8.8.1 Starting Up the Lamp Menu	134
8.8.2 Constant Light Output (CLO)	135
8.8.3 Lamp Mode	136
8.9 Barco Logo	136
8.9.1 Starting Up Barco Logo	136
8.9.2 Barco Logo Status	137
8.9.3 Barco Logo Background	137
8.9.4 Shift Barco Logo	138
8.9.5 Hot Key	138
8.10 Preset Input Balance 1	138
8.11 Preset Input Balance 2	139
8.12 Electronic Convergence	139
8.13 Diagnosis	140
8.13.1 Starting Up Diagnosis	140
8.13.2 I ² C Diagnosis	141
8.13.3 Formatter Diagnosis	141
8.13.4 SMPS Diagnosis	142
8.14 DynaColor™	142
A. Standard Source Files	145
A.1 Table overview	145
Index	147

1. SAFETY INSTRUCTIONS

1.1 Warnings

To prevent personnel injury

The customer should never attempt to disassemble the lamp casing or to dispose of the lamp casing other than by returning it to BARCO.

To prevent injuries and physical damage, always read this manual and all labels on the system before connecting to the wall outlet, or adjusting the projector.

To prevent injuries, take note of the weight of the projector. Minimum 4 persons are needed to carry the projector.

NEVER look into the lens ! Due to the high luminance damage to the eye can happen.

Before attempting to remove the projector's cover, you must turn off the projector and disconnect from the wall outlet.

When performing set up work at a ceiling mounted projector, to prevent injury caused by falling objects or the system, set out a keep out area.

Consult a professional structural engineer prior to suspending the ceiling mount from a structure not intended for that use. Always ensure the working load limit of the structure supporting the projector.

The power input at the projector side is considered as the disconnect device. When mentioned to switch of the projector, to access some parts inside, always disconnect the power cord at the projector side.

To prevent projector damage

If the Air Filters are not regularly replaced, the air flow inside the projector could be disrupted, causing overheating. Overheating may lead to the projector shutting down during operation.

In order to ensure that correct airflow is maintained, and that the projector complies with Electromagnetic Compatibility requirements, it should always be operated with all of it's covers in place.

Ensure that nothing can be spilled on, or dropped inside the projector. If this does happen, switch off and unplug the mains supply immediately. Do not operate the projector again until it has been checked by qualified service personnel.

The projector must always be mounted in a manner which ensures free flow of air into its air inlets and unimpeded evacuation of the hot air exhausted from its cooling system. Heat sensitive materials should not be placed in the path of the exhausted air.

Special care should be used when DLP projectors are used in the same room as performant laser equipment. Direct or indirect hitting of a laser beam on to the lens can severely damage the Digital Mirror Devices (TM) in which case there is a loss of warranty

To prevent battery explosion

Danger of explosion if battery is incorrectly replaced.

Replace only with the same or equivalent type recommended by the manufacturer.

Dispose of used batteries according to the manufacturer's instructions.

1.2 FCC statement

Federal Communication Commission (FCC Statement)

This equipment has been tested and found to comply with the limits for a class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area may cause harmful interference, in which case the user will be responsible for correcting any interference.

1.3 Note

Definitions

Definition Qualified service technicians or Qualified technicians : Persons having appropriate technical training and experience necessary to be aware of hazards to which they are exposed in performing a task and of measures to minimize the danger to themselves or other persons.

Extra Safety manual

Read also safety instructions in separate manual (**R5976125**).

2. PACKAGING AND DIMENSIONS

This chapter handles about the way the projector is packed and gives an overview of the dimensions.

- Box Content
- Lens Packaging
- Dimensions

2.1 Box Content

Content

- 1 projector Barco Galaxy WARP™ (weight \pm 56 kg or 123.5 lbs without lens)
- 1 Remote Control Unit (RCU) + 2 Batteries 1,5V)
- 1 European and 1 American Power Cable
- 1 Owner's Manual

2.2 Lens Packaging

Way of Packaging

Lenses are supplied as an individual item.

They are packed in a carton.

2.3 Dimensions

Dimensions

The dimensions of the projector are given in mm and inch (25,4mm = 1 inch).

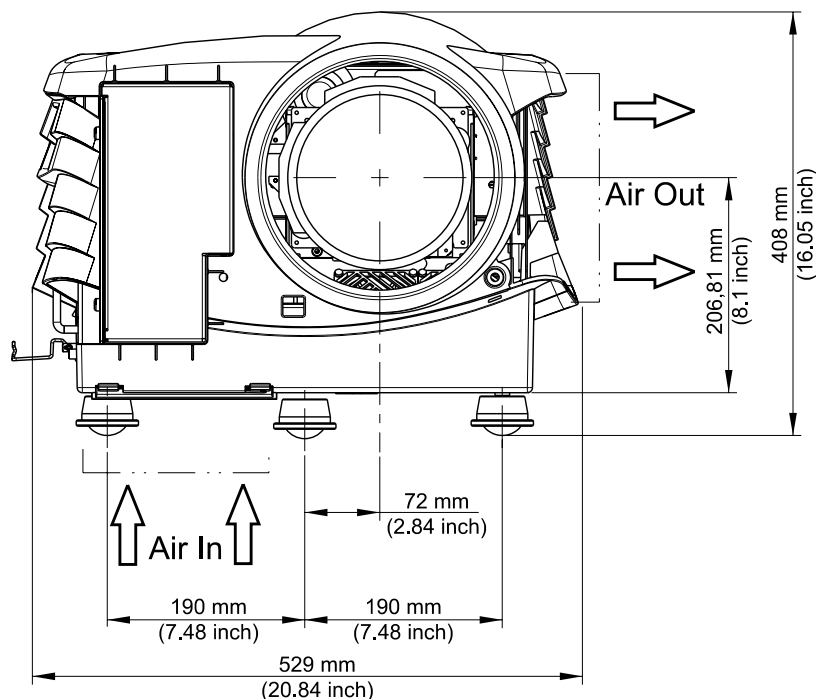


Image 2-1
Front View Dimensions

2. Packaging and Dimensions

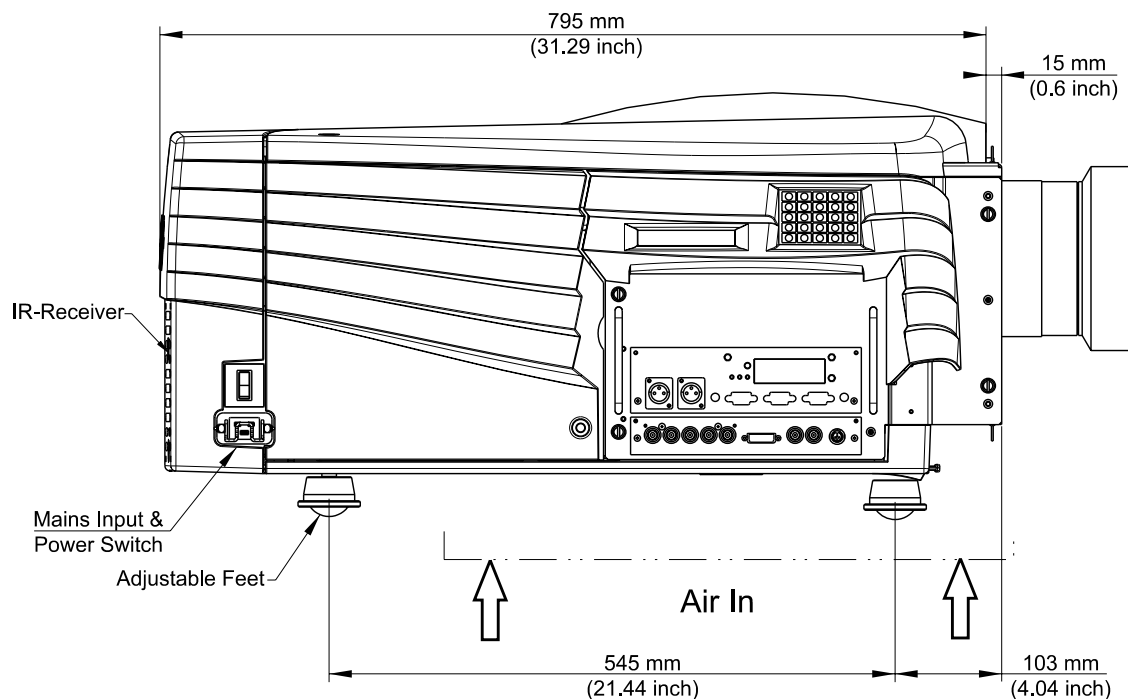


Image 2-2
Left View Dimensions

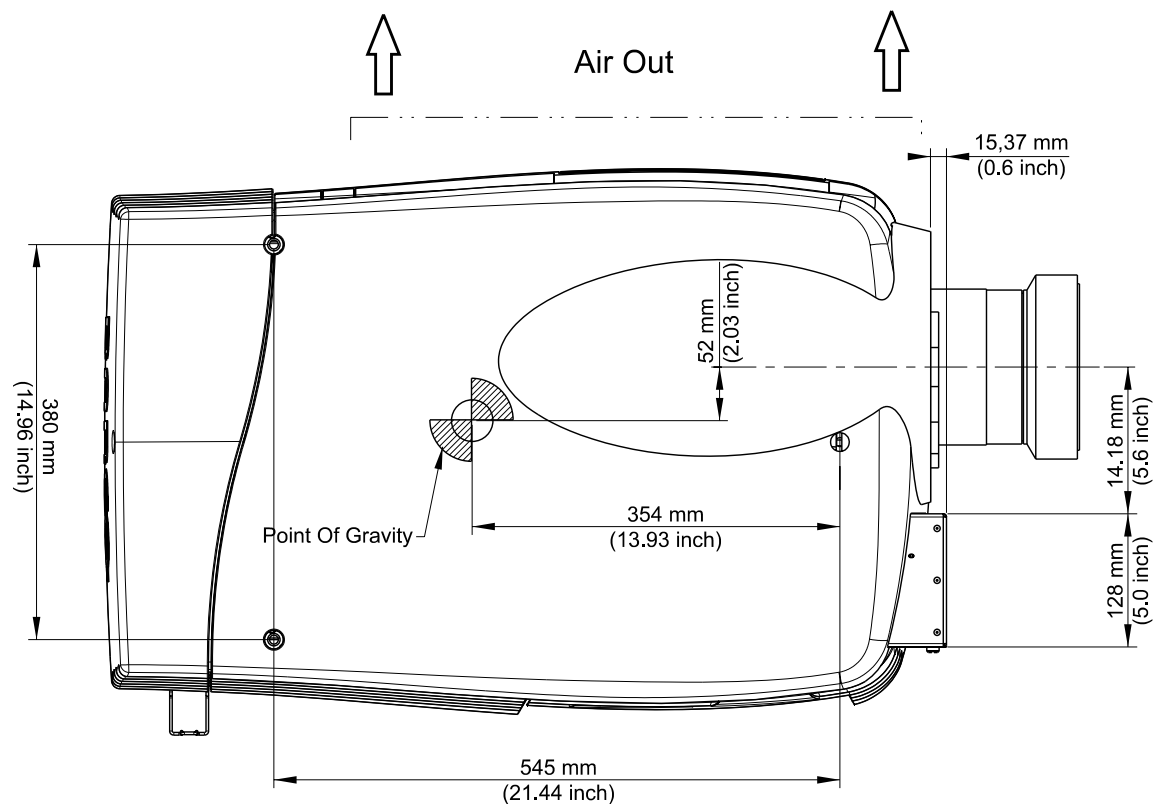


Image 2-3
Top View Dimensions

3. INSTALLATION GUIDELINES

Overview

- General
- Projector Position
- Configuration
- Safety Area around the projector
- Re-adjusting the lamp position in the lamp casing
- Lenses
- Battery Installation in the RCU



The engines are non sealed versions.

3.1 General



WARNING: Before installing the projector, read first the safety instructions.

Ambient Temperature Conditions.

Careful consideration of things such as image size, ambient light level, projector placement and type of screen to use are critical to the optimum use of the projection system.

Max. ambient temperature : 35°C or 95 °F

Min. ambient temperature : 10 °C or 50 °F

The projector will not operate if ambient air temperature falls outside this range (10°C- 35°C or 50°F-95°F).

Storage temperature: -35°C to +65°C (-31°F to 149°F)

Humidity Conditions

Storage: 0 to 98 % RH Non-condensing

Operation: 0 to 95 % RH Non-condensing



CAUTION: Harmful Environmental Contamination Precaution

Environment

Do not install the projection system in a site near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust or humidity. Be aware that room heat rises to the ceiling; check that temperature near the installation site is not excessive.

Environment condition check

A projector must always be mounted in a manner which ensures the free flow of clean air into the projectors ventilation inlets. For installations in environments where the projector is subject to airborne contaminants such as that produced by smoke machines or similar (these deposit a thin layer of greasy residue upon the projectors internal optics and imaging electronic surfaces, degrading performance), then it is highly advisable and desirable to have this contamination removed prior to it reaching the projectors clean air supply. Devices or structures to extract or shield contaminated air well away from the projector are a prerequisite, if this is not a feasible solution then measures to relocate the projector to a clean air environment should be considered.

Only ever use the manufacturer's recommended cleaning kit which has been specifically designed for cleaning optical parts, never use industrial strength cleaners on the projector's optics as these will degrade optical coatings and damage sensitive optoelectronics components. Failure to take suitable precautions to protect the projector from the effects of persistent and prolonged air contaminants will culminate in extensive and irreversible ingrained optical damage. At this stage cleaning of the internal optical units will be non-effective and impracticable. Damage of this nature is under no circumstances covered under the manufacturer's warranty and may deem the warranty null and void. In such a case the client shall be held solely responsible for all costs incurred during any repair. It is the clients responsibility to ensure at all times that the projector is protected from the harmful effects of hostile airborne

3. Installation Guidelines

particles in the environment of the projector. The manufacturer reserves the right to refuse repair if a projector has been subject to wantful neglect, abandon or improper use.

Special Care for Laser Beams

Special care should be used when DLP projectors are used in the same room as performant laser equipment. Direct or indirect hitting of a laser beam on to the lens can severely damage the Digital MicroMirror Devices™ in which case there is a loss of warranty

Which screen type ?

There are two major categories of screens used for projection equipment. Those used for front projected images and those for rear projection applications.

Screens are rated by how much light they reflect (or transmit in the case of rear projection systems) given a determined amount of light projected toward them. The 'GAIN' of a screen is the term used. Front and rear screens are both rated in terms of gain. The gain of screens range from a white matte screen with a gain of 1 (x1) to a brushed aluminized screen with a gain of 10 (x10) or more. The choice between higher and lower gain screens is largely a matter of personal preference and another consideration called the Viewing angle. In considering the type of screen to choose, determine where the viewers will be located and go for the highest gain screen possible. A high gain screen will provide a brighter picture but reduce the viewing angle. For more information about screens, contact your local screen supplier.

What image size? How big should the image be?

The projector is designed for projecting an image size : min 1.00m (3.3ft) to max 15 m (49.2ft) (depending on the ambient light conditions), with an aspect ratio of 4 to 3.

3.2 Projector Position

Projector Position Guidelines

The lamp axis, as it is drawn on this picture, can be oriented according to the specifications:

- pointed in any downward direction
- up to 15° in an upward position.

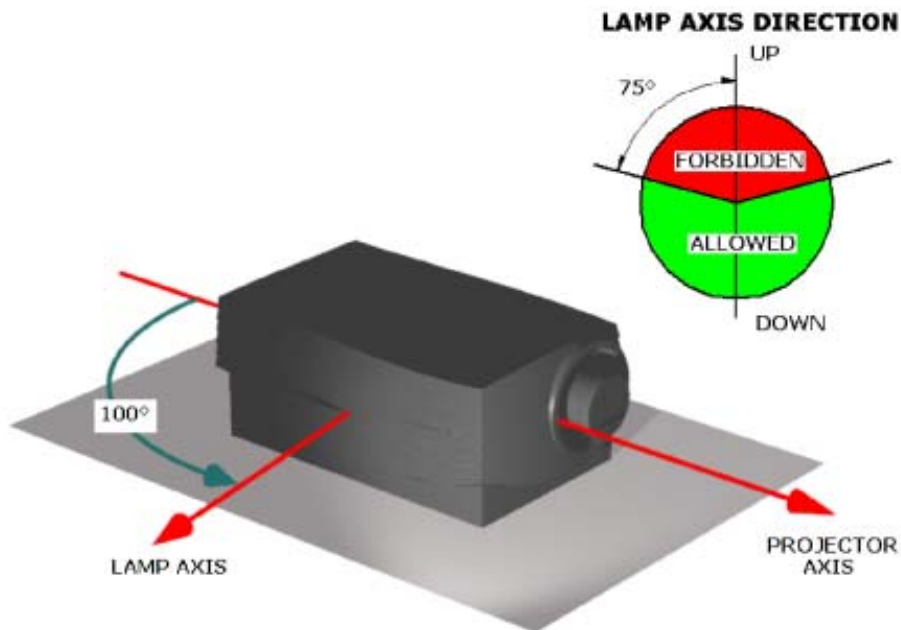


Image 3-1
Projector position



CAUTION: Never use the projector when turned with the inputs downwards.

3.3 Configuration

Which configuration can be used?

The projector can be installed to project images in four different configurations.

- Front / Table
- Front / Ceiling
- Rear / Table
- Rear / Ceiling

Positioning the projector

The Projector should be installed perpendicular with the screen on a distance PD and water leveled in both directions. The mounting positions in following images are shown for a nominal lens position.

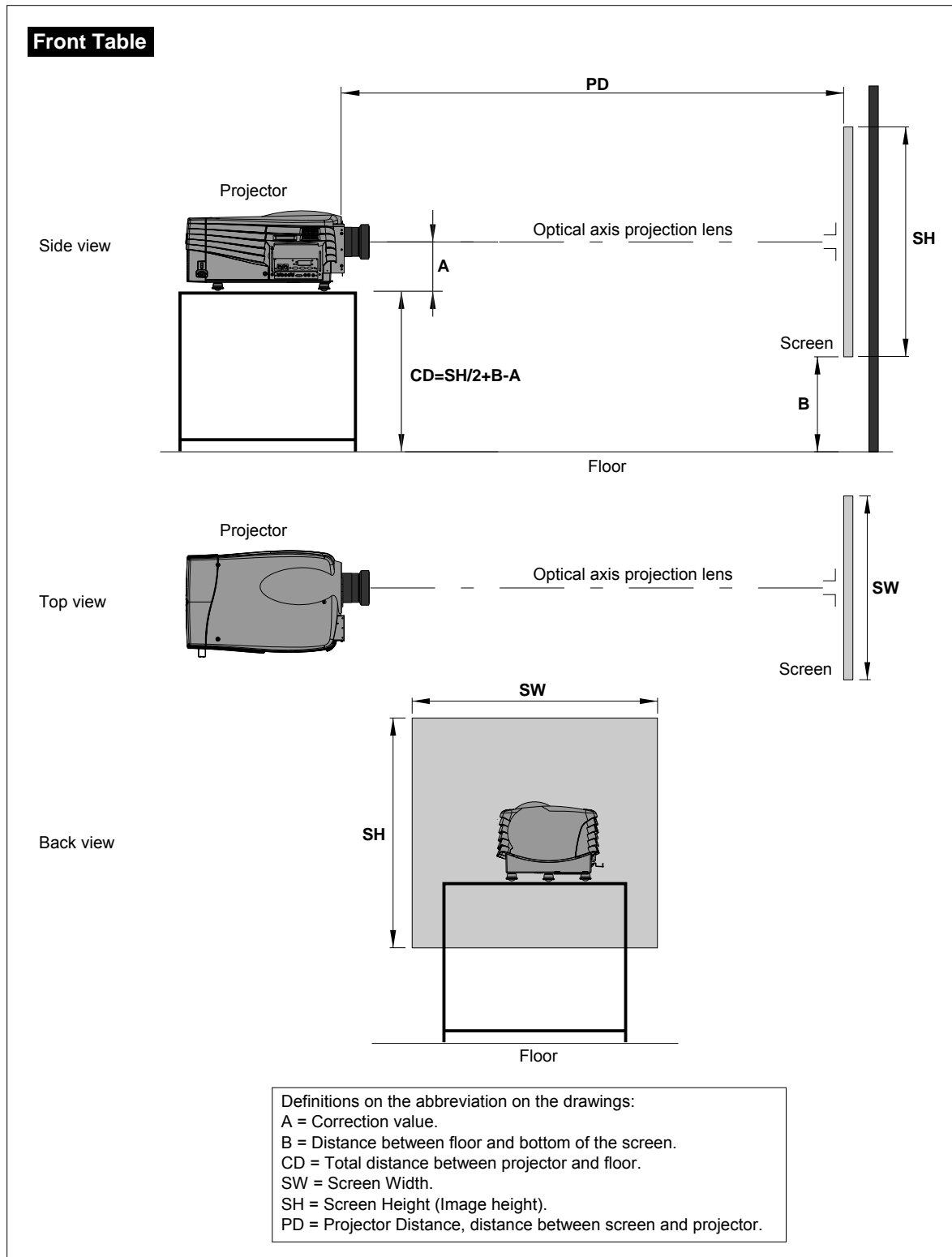


Image 3-2
Front Table Configuration

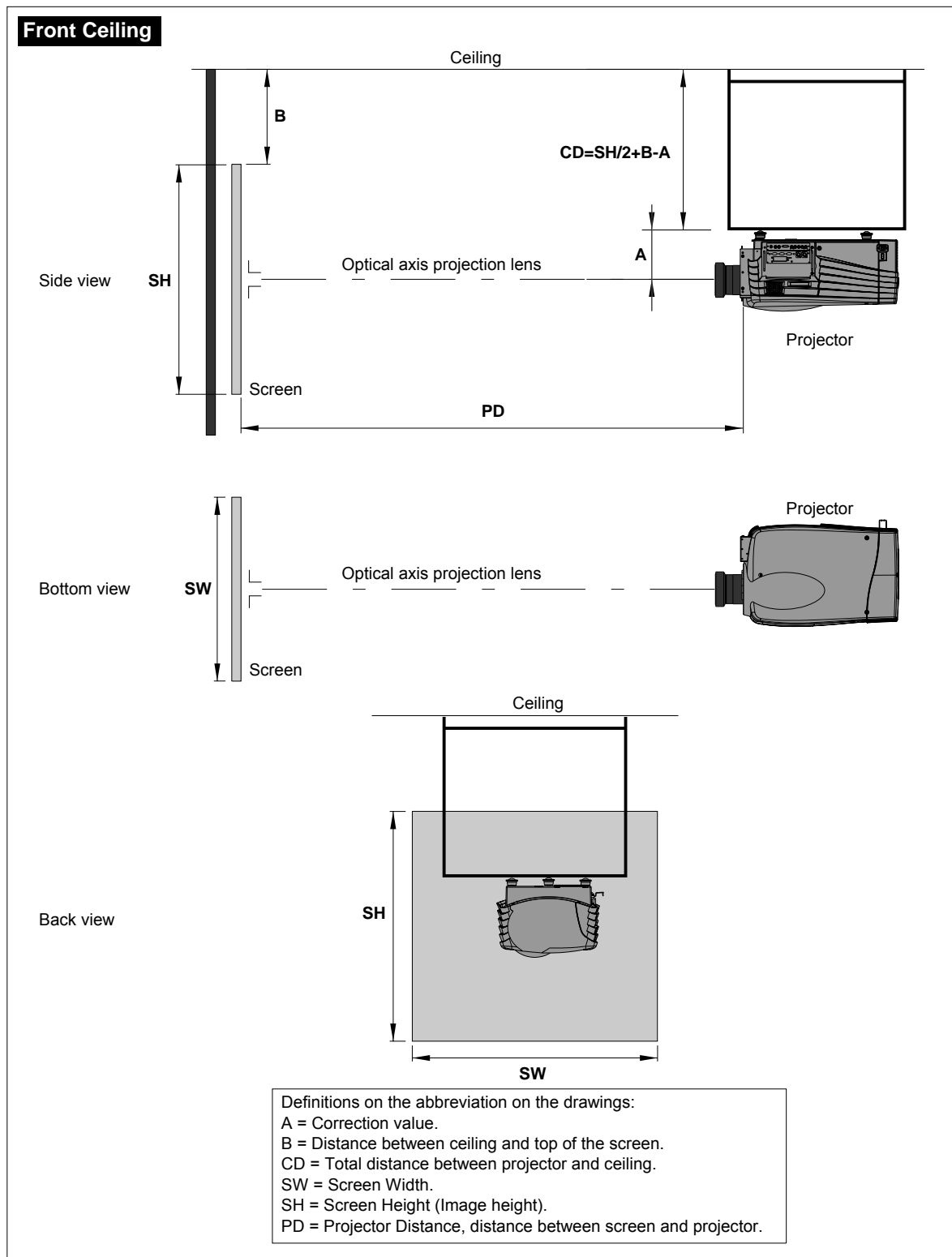


Image 3-3
Front Ceiling Configuration

3.4 Safety Area around the projector

Safety Area

Make sure the projector is located so that the air inlets and outlets for the cooling system are not obstructed. Leave a safety area A of about 1 meter on the left and the right side of the projector.

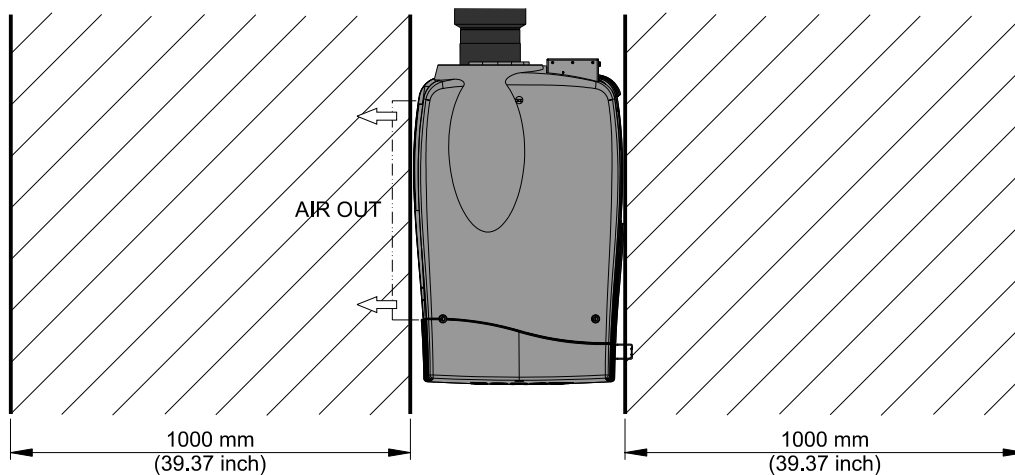


Image 3-4
Safety Area

3.5 Re-adjusting the lamp position in the lamp casing

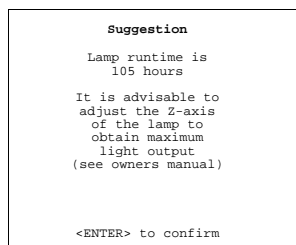


WARNING: As the projector has to be opened, this procedure has to be performed by qualified service technician.

Why

With higher run times, the light output of the lamp will decrease, which results in a lower light output on the screen. This light output decrease can be compensated by readjusting the position of the lamp.

A suggestion dialog box will be displayed when the projector is restarted after 100 hours and 250 hours. Once **ENTER** is pressed when that box is open, this box will not be displayed again till the next alert point is reached.



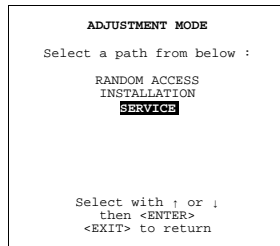
Menu 3-1

The user can now adjust the Z-axis by following the next procedure.

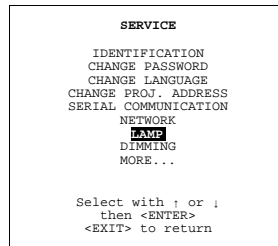
How to readjust.

1. On the side of the inputs, turn the retaining bolt a quarter counter clockwise.
2. Flip the cover to the left side and take off. (image 3-5)
3. Start up the adjustment mode and select *Service*. (menu 3-2)
4. Select Lamp. The Z-axis indication (lamp menu in service mode) will be helpful while turning screw B . (menu 3-3)
5. Loosen the nut A (image 3-6) on the back of the lamp casing (nutdriver 10).

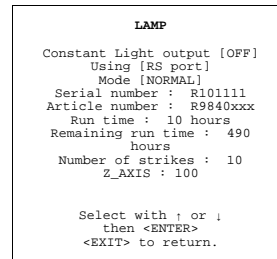
6. Adjust the screw B (image 3-6) with an Allen key by turning a little clockwise until the maximum light output is reached (the maximum value of the Z-AXIS indication on the lamp menu).
7. Fasten the nut on the back of the lamp casing to secure this position (nutdriver 10).



Menu 3-2



Menu 3-3



Menu 3-4

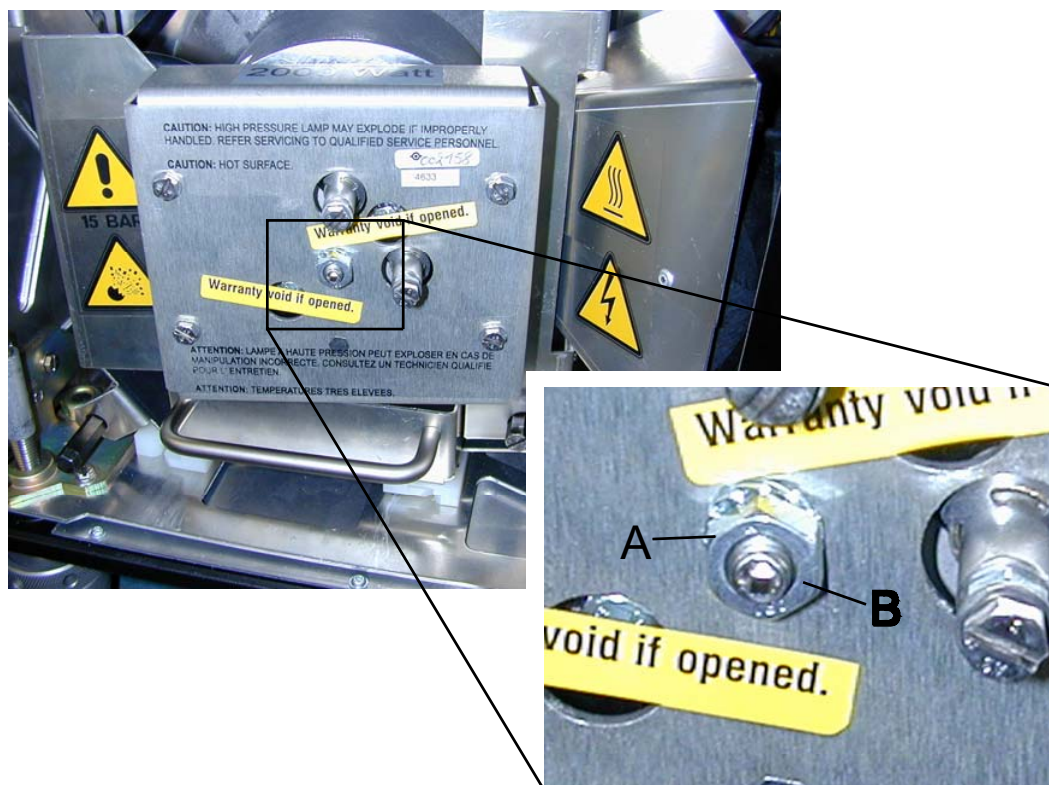

Image 3-5
Lamp adjustment access


Image 3-6



CAUTION: Never turn the other screws ! These are factory aligned.

3.6 Lenses

Overview

- Lenses
- Lens selection
- Lens formulas
- Lens Installation
- Cleaning the lens

3.6.1 Lenses

Available lenses

TLD(1.6–2.0:1)	R9840670
TLD(2.0–2.8:1)	R9840680
TLD(2.8–5.0:1)	R9840690
TLD(1.2:1)	R9840770
TLD(0.8:1)	R9840900
TLD(5.0–8.0:1)	R9840910

3.6.2 Lens selection

How to select ?

1. Determine the required screen width.
2. Determine the approximate position of the projector in the projection room with regard to the screen and measure the projector-screen distance (PD).
3. Use the lens formulas to find the best corresponding PD with regard to the measured projector-screen distance for the required screen width.

3.6.3 Lens formulas

Formulas

	Metric formulas (meter)	Inch formulas (inch)
TLD(0.8:1)	$PD = 0.84 \times SW - 0.05$	$PD = 0.84 \times SW - 1.97$
TLD(1.2:1)	$PD = 1.20 \times SW - 0.01$	$PD = 1.20 \times SW - 0.39$
TLD(1.6–2.0:1)	$PD_{min} = 1.59 \times SW - 0.09$ $PD_{max} = 2.00 \times SW - 0.13$	$PD_{min} = 1.59 \times SW - 3.54$ $PD_{max} = 2.00 \times SW - 5.12$
TLD(2.0–2.8:1)	$PD_{min} = 2.00 \times SW - 0.17$ $PD_{max} = 2.84 \times SW - 0.24$	$PD_{min} = 2.00 \times SW - 6.69$ $PD_{max} = 2.84 \times SW - 9.45$
TLD(2.8–5.0:1)	$PD_{min} = 2.80 \times SW - 0.16$ $PD_{max} = 5.10 \times SW - 0.38$	$PD_{min} = 2.80 \times SW - 6.30$ $PD_{max} = 5.10 \times SW - 14.96$
TLD(5.0–8.0:1)	$PD_{min} = 4.90 \times SW - 0.01$ $PD_{max} = 8.16 \times SW - 0.29$	$PD_{min} = 4.90 \times SW - 0.39$ $PD_{max} = 8.16 \times SW - 11.42$



Lens program to calculate the projector distance is available on the BARCO web side : http://www.barco.com/projection_systems/customer_services/lens_program.asp

3.6.4 Lens Installation

How to install ?

Follow the next procedure:

1. Remove the foam rubber in the opening of the lens holder.
2. Take the lens assembly out of its packing material and remove the lens caps on both sides.
3. Move the handle (A) of the lens anchor system to the right. (image 3-7)
4. Push the lens, motors at the top, in the lens block gap horizontally, lining up the motor connector on the lens with the connector on the lens block (B), until the lens clicks in the lens anchor system. (image 3-8)

Caution: On a table mounted projector, hold the projector when pushing the lens into the lens block to avoid sliding off from the table.

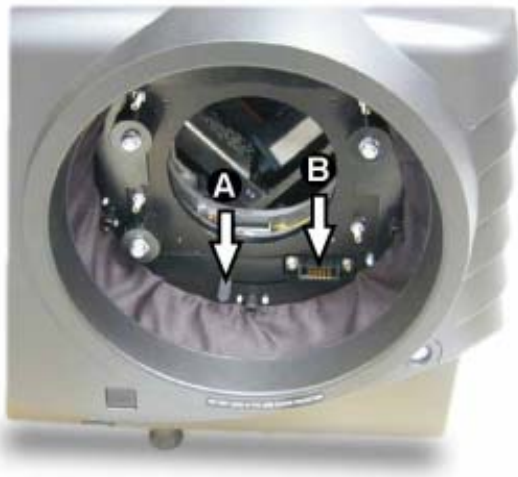


Image 3-7
Lens installation



Image 3-8
Mounted Lens

3.6.5 Cleaning the lens



To minimize the possibility of damaging the optical coating or scratching exposed lens surface, we have developed recommendations for cleaning the lens. **FIRST**, we recommend you try to remove any material from the lens by blowing it off with clean, dry deionized air. **DO NOT** use any liquid to clean the lenses.

Necessary tools

Toraysee™ cloth (delivered together with the lens kit). Order number : R379058.

How to clean the lens ?

Proceed as follow :

1. Always wipe lenses with a CLEAN Toraysee™ cloth.
2. Always wipe lenses in a single direction.
Warning: Do not wipe back and forwards across the lens surface as this tends to grind dirt into the coating.
3. Do not leave cleaning cloth in either an open room or lab coat pocket, as doing so can contaminate the cloth.
4. If smears occur when cleaning lenses, replace the cloth. Smears are the first indication of a dirty cloth.



WARNING: Do not use fabric softener when washing the cleaning cloth or softener sheets when drying the cloth.

Do not use liquid cleaners on the cloth as doing so will contaminate the cloth.



CAUTION: Other lenses can also be cleaned safely with this Toraysee™ cloth.

3.7 Battery Installation in the RCU

How are the batteries delivered ?

The batteries (not yet installed to save the battery life time) are delivered inside the plastic bag with the power cord.

How to install

1. Remove the battery cover on the backside of the remote control by pushing the indicated handle a little towards the bottom of the RCU.
2. Lift up the top side of the cover at the same time.
3. Insert the 2 new 1,5 V batteries as indicated in the RCU. (image 3-9)
4. Put the battery cover back on its place.

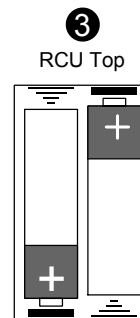
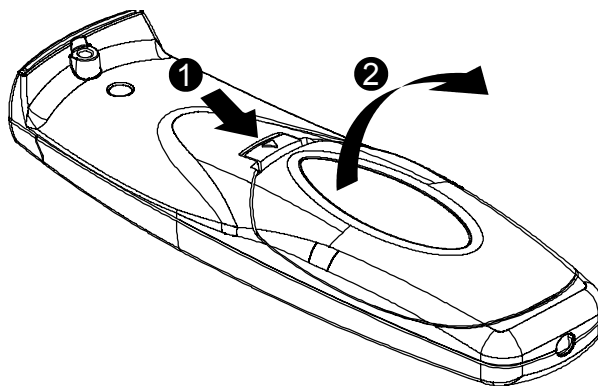


Image 3-9
Battery installation

4. CONNECTIONS

Overview

- Power connection
- Switching On
- Switching to standby
- Switching off
- Input Connections
- Communication Connections
- Stereo Connections

4.1 Power connection

AC Power cord connection

Use the supplied power cord to connect your projector to the wall outlet. Plug the female power connector into the male connector at the left of the projector. The power input is 230 VAC.

Fuses

The projector is protected with an automatic circuit breaker of 15A which is built in into the power switch.

4.2 Switching On

How to switch on ?

1. Press the power switch to switch on the projector.
 - When '0' is visible, the projector is switched off.
 - When '1' is visible, the projector is switched on.

The projector starts in standby mode. The projector indication lamp is red.

Starting image projection

1. Press **Stand by** key once on the local keypad or on the remote control. (image 4-1)

The projector mode indication lamp will be green.

Or,

Press a digit button to select an input source.

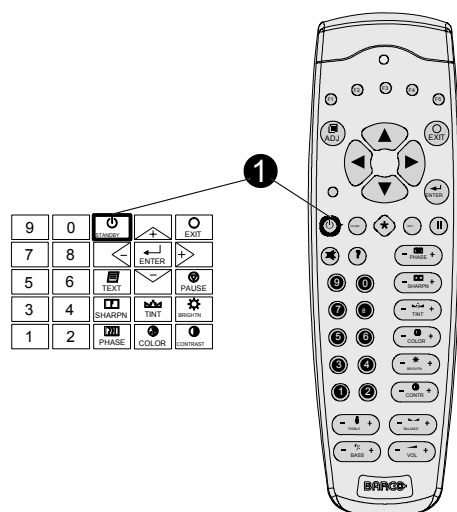


Image 4-1
Stand by keys on RCU and local keypad

Lamp run time indication

The total lamp runtime for a safe operation is maximum 1000 or 1500 (depending on the lamp type) hours, do not use the lamp any longer.

Operating the lamp longer than 1000 or 1500 (depending on the lamp type) hours may damage the projector.

When the maximum lamp runtime hours is reached, the following warning will be displayed, from then on, each time the projector is started up, this warning will be displayed.

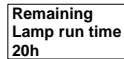


Image 4-2



Press ENTER to remove this warning.

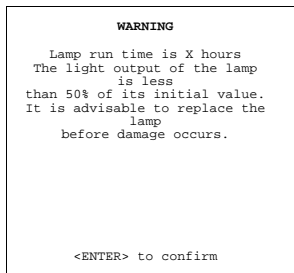
Always replace with the same type of lamp, call a BARCO authorized service technician for this lamp replacement.



CAUTION: Using a lamp for more than 1000 or 1500 (depending on the lamp type) hours is dangerous as the lamp could explode.

Lamp Light Output Indication

When starting up the projector, the center lumens measurement is performed, when the lamp light output is lower than 50 % of the initial value, the lamp light output warning will be displayed.



Menu 4-1



Press ENTER to remove this warning.

4.3 Switching to standby

How to switch to standby?

1. Press **Standby** to switch the projector to standby.

4.4 Switching off

How to switch off the projector?

1. Press first **Standby**.
2. Let cool down the projector until the fans stop blowing, at least 15 min.
3. Switch off the projector with the power switch.

4.5 Input Connections

Overview

- Input Facilities
- Input 1
- Input 2
- Inputs via RCVDS05

4.5.1 Input Facilities

Input Facilities Overview

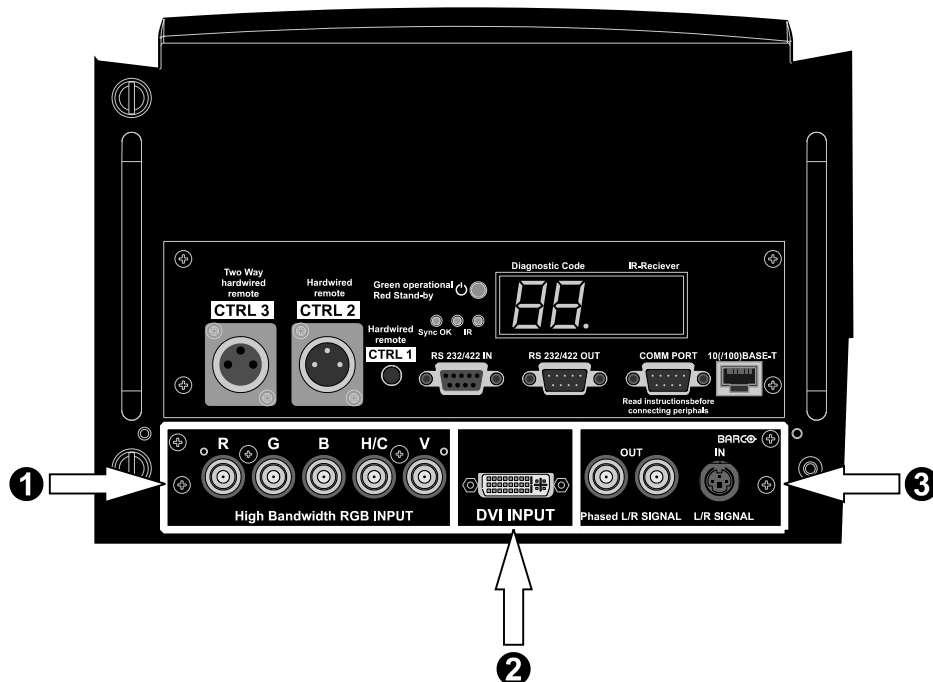


Image 4-3
Input Facilities

Input Number	Type Of Input
1	High Bandwidth RGB Input
2	DVI Input ¹
3	Left/Right Phasing Module

Table 4-1
Input Facilities

4.5.2 Input 1

Input 1 specifications

Input 1 has 5 BNC Input Terminals for 5 Cable Input.

Which signals can be connected to input 1?

Input Signal	R	G	B	H	V
RGBHV	R	G	B	H	V
RGBS	R	G	B	S	—
RG _S B	R	G _S	B	—	—

1. Can not be used for Stereo Sources

How to select RGB on input 1?

1. Press the **1** key on the RCU or Local Keypad.

How to change the input slot setting?

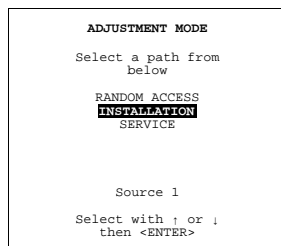
1. Press **ADJUST** or **ENTER** key to start up the *Adjustment Mode*.
2. Push the cursor key \uparrow or \downarrow to select *Installation*. (menu 4-2)
3. Press **ENTER** to select.

The *Installation* menu will be displayed.

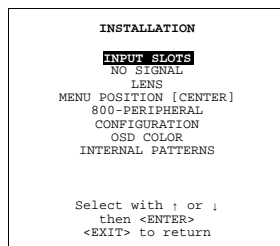
4. Push the cursor key \uparrow or \downarrow to select *Input Slots*. (menu 4-3)
5. Press **ENTER** to select.

The internal system will scan the inputs and displays the result in the *Input Slots* menu, only Input 1 is available. (menu 4-4)

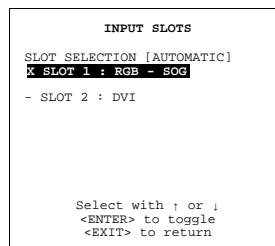
6. Press **ENTER** to toggle between RGB-SS or RGB-SOG.



Menu 4-2



Menu 4-3



Menu 4-4

Possible indications on the input slot menu.

- RGS-SS [CV or HS&VS] = RGB analog signals, separate sync is composite sync or horizontal and vertical sync.
- RGB-SOG = RGB analog signals with sync on green.

When changing from an analog signal on the RGB Input to the DVI Input the indication led on the front panel of the module will switch from the RGB Input to the DVI Input.

4.5.3 Input 2

Input 2 specifications

Input 2 has a DVI plug for DVI input.

Which signals can be connected to input 2?

DVI signals can be connected to the DVI input connector.



The DVI input can not be used for Stereo Sources.

Pin assignment for the DVI connector.

Pin 1	TMDS DATA2-	Pin 13	TMDS DATA3+
Pin 2	TMDS DATA2+	Pin 14	+5 Power
Pin 3	TMDS DATA2/4 Shield	Pin 15	Ground (for +5V)
Pin 4	TMDS DATA4-	Pin 16	Hot Plug Detect
Pin 5	TMDS DATA4+	Pin 17	TMDS DATA0-
Pin 6	DDC Clock	Pin 18	TMDS DATA0+
Pin 7	DDC Data	Pin 19	TMDS DATA0/5 Shield
Pin 8	No connect	Pin 20	TMDS DATA5-

Pin 9	TMDS DATA1-	Pin 21	TMDS DATA5+
Pin 10	TMDS DATA1+	Pin 22	TMDS Clock Shield
Pin 11	TMDS DATA1/3 Shield	Pin 23	TMDS Clock+
Pin 12	TMDS DATA3-	Pin 24	TMDS Clock-

How to select DVI on Input 2?

1. Press the **2** key on the RCU or Local Keypad.

4.5.4 Inputs via RCVDS05

Overview

When using a RCVDS05, the input configuration must be as follows:

Slot 1	RGB/Component
Slot 2	Not Used

When using a RCVDS05, it is recommended to use a 5-cable output module in the RCVDS. The outputs of this module has to be connected to slot 1 of the projector.

4.6 Communication Connections

Overview

- Linked System
- RS232 (RS422) connection
- Communication with peripherals

4.6.1 Linked System



CAUTION: Always use the Barco COM 800 Splitter, R9827941 (240V) or R9827948 (110V), when using the COM 800 protocol.

What can be done?

In a complex multi-channel setup, projectors can be controlled using the RS232 or COM800 Protocol.

CLO and Dynacolor™ can be controlled by both protocols, however by using the COM800 port for these 2 adjustments, the RS232 Port can still be used for general RS232 commands.

The following procedures will describe how to connect a RS232 Linked System and a COM800 Linked System.

How to connect a RS232 Setup?

1. Connect a Null Modem connector to the RS232 Input of the master-projector. (image 4-4)
2. Connect the output of the Null Modem connector to the RS232 Input of the first slave-projector (image 4-4).
3. Continue by connecting the RS232 Output of the first slave-projector to the RS232 Input of the second slave-projector (image 4-4).
4. Continue this daisy chain connection to connect all slave-projectors (image 4-4).

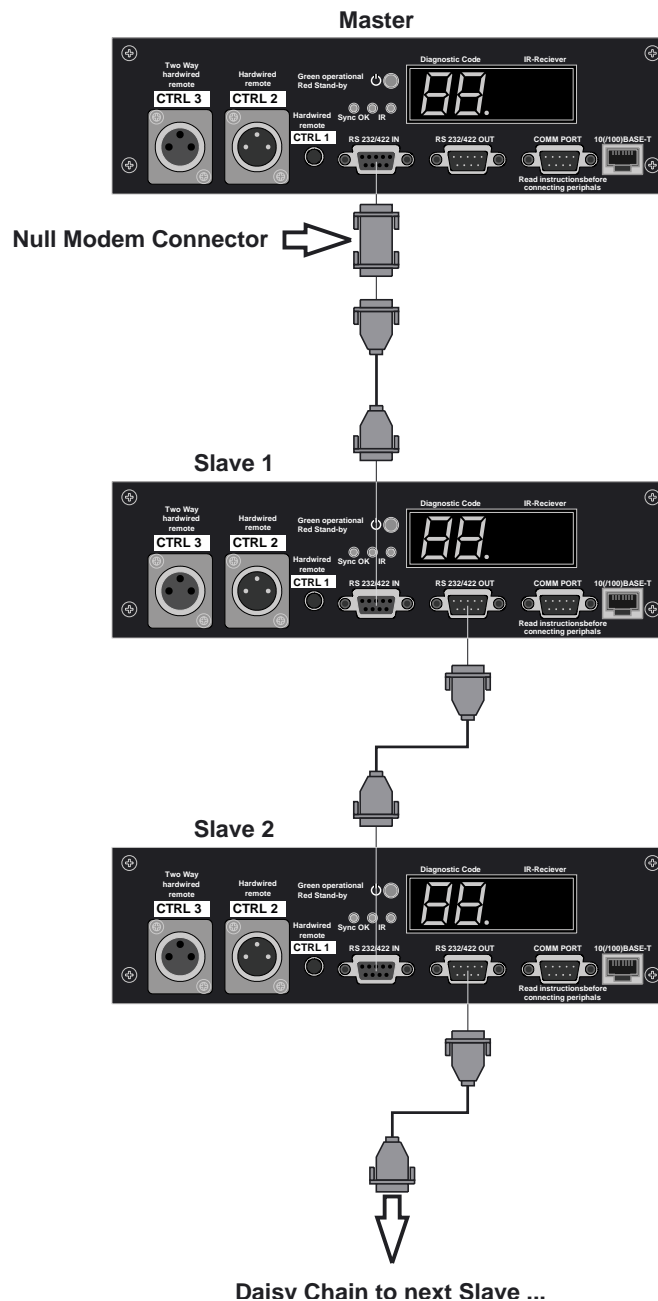


Image 4-4
RS232 Setup

How to connect a COM800 Setup

Always use the Barco COM 800 Splitter, **R9827941** (240V) or **R9827948** (110V), when using the COM 800 protocol.

1. Use a data cable with at least 9 cores and 2 DB9 female connectors, just cross the pin 2 and pin 3 connection to make a Custom Null Modem Cable. (image 4-5)
2. Use the Custom Null Modem Cable to connect the COM 800 port of the master-projector to the 'To Switcher' port on the frontside of the COM 800 Splitter. (image 4-6)
3. Continue by connecting the slave projectors to the 'To Proj.' connectors on the backside of the COM 800 Splitter (image 4-6).
4. When dealing with more than 4 slave projectors, the 'To Proj.' connectors on the backside of the COM 800 Splitter can also be used to connect extra COM 800 Splitters (image 4-6).

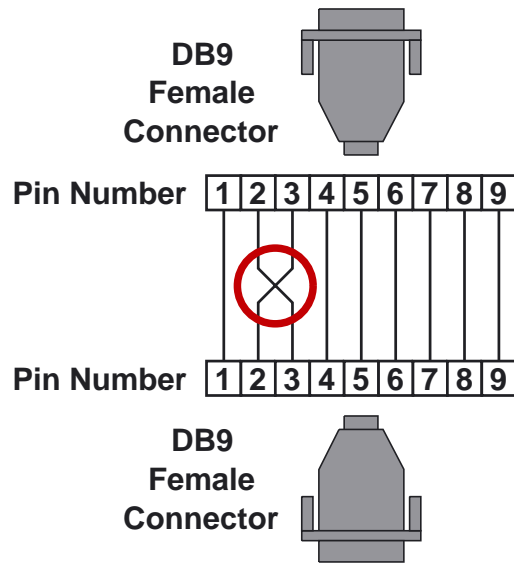


Image 4-5
Make a Custom Null Modem Cable

4. Connections

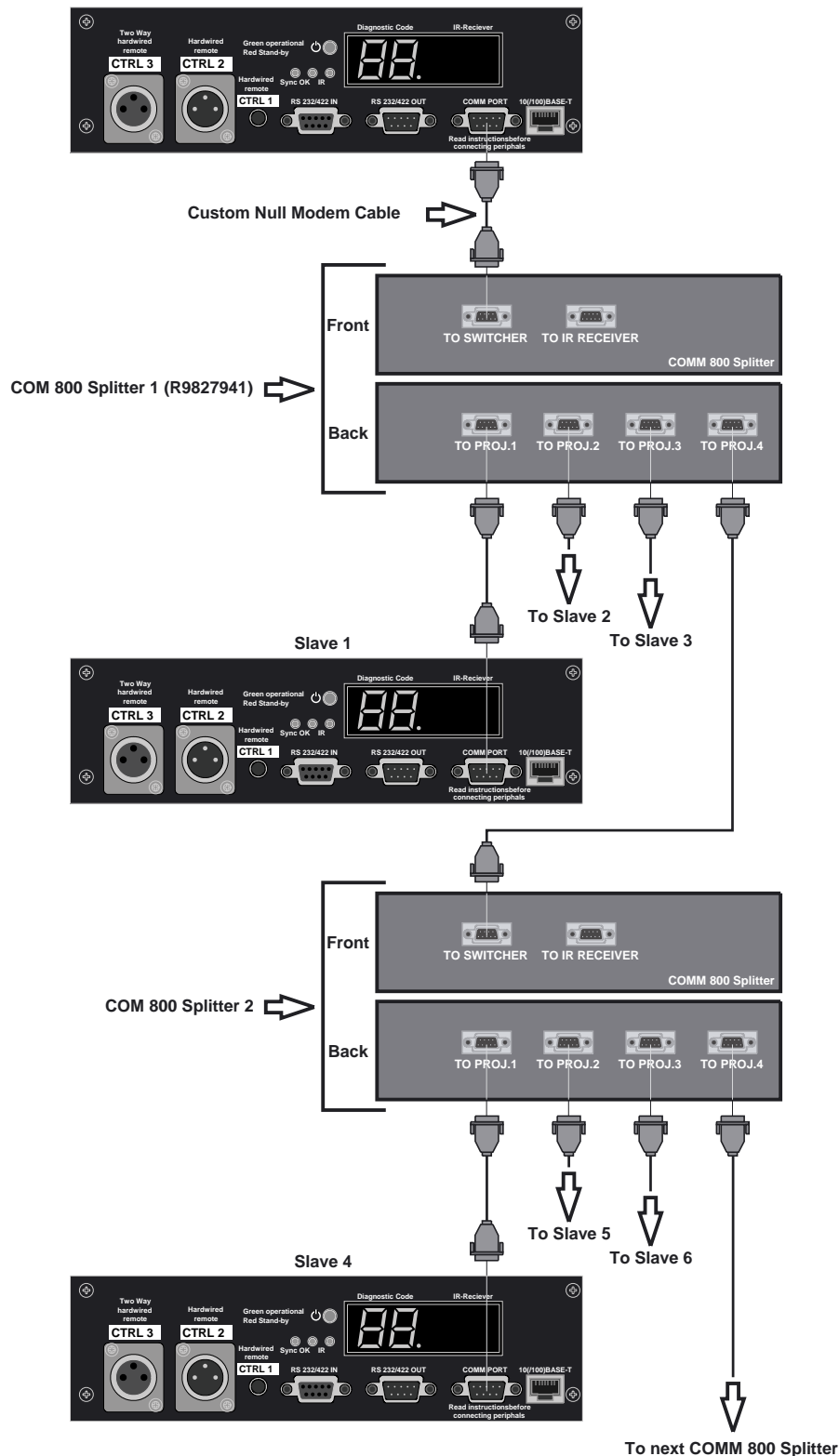


Image 4-6
Com 800 Connection

4.6.2 RS232 (RS422) connection

Application

1. Remote control:
 - easy adjustment of projector via an IBM PC (or compatible) or MAC connection.
 - allow storage of multiple projector configurations and set ups.
 - wide range of control possibilities.
 - address range from 0 to 255.
2. Data communications: sending data to the projector or copying the data from the projector to a hard memory device (hard disc, floppy, etc.).

4.6.3 Communication with peripherals

What is possible with an RCVDS05 connected.

- Up to 20 inputs with the RCVDS 05 and 90 inputs when RCVDS's are linked via the expansion module.
- Serial communication with the projector.
- Remote control buttons on the RCVDS to control the projector (source selection and analog settings).
- The selected source number will be displayed on a 2 digit display and the selected input module will be indicated with a LED on the rear.

For more information about the use of the RCVDS05, consult the owner's manual of the RCVDS05.

What is possible with an VS05 connected.

The VS05 can switch up to 5 Composite Video sources, 3 Super Video sources and 1 RGB analog or component video source to the projector. In addition, the audio signal proper to the source, can be switched to an audio amplifier. Order number : R9827890

For more information about the use of the VS05, consult the VS05 owner's manual.

Connecting an IR Remote Receiver to the projector.

This infrared receiver unit makes it possible to control the projector from another room. There is a communication line cable between the IR receiver and the projector or the RCVDS. The control information from the RCU can now be sent to the IR Remote Receiver.

The IR Remote Receiver displays the selected source on a 7-segment display.

4.7 Stereo Connections

4.7.1 Single Channel Stereo Connections

4.7.1.1 Left/Right Phasing Module (Input 3)

Purpose

The Left/Right Phasing module allows us to manipulate the Stereo Emitter Signal that activate the Stereo Glasses.

How to connect the stereo emitter signal?

1. Connect the stereo emitter signal from the Image Generator to the Mini DIN input of the Left/Right Phasing module. (image 4-7)
Note: On some IG's, the Stereo Sync is already present in the Vertical Sync Signal.
2. Connect the IR emitters to the BNC output(s) of the Left/Right Phasing module.

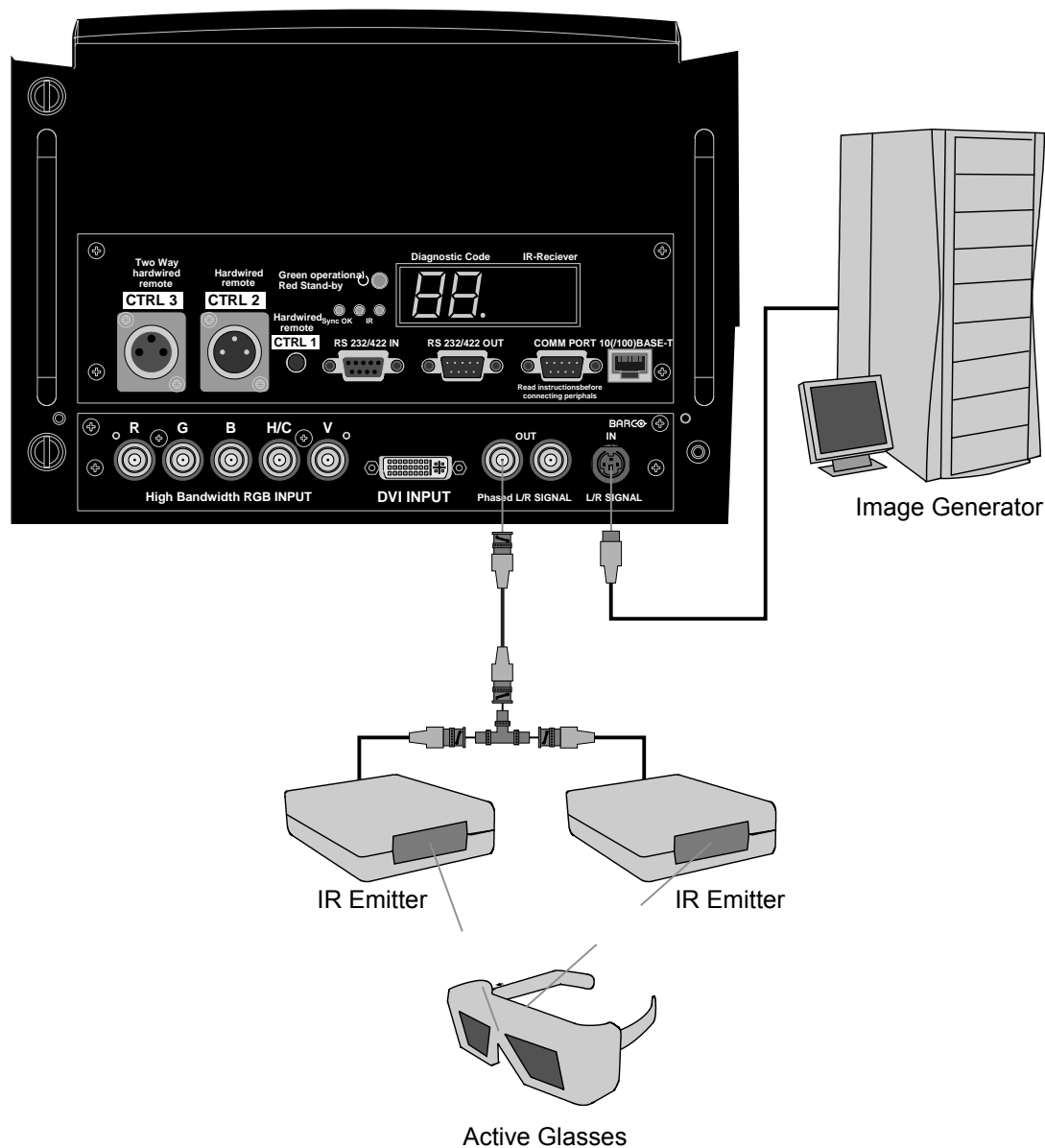


Image 4-7
Left/Right phasing module connections

4.7.2 Multi-Channel Stereo Connections

Overview

- Stereo Set Up
- Single CADWall Configuration
- Multiple CADWall (Showroom Installation)

4.7.2.1 Stereo Set Up

How to Set Up the Stereo Parameters?

The Transport Delay Setting must be the same on all Projectors.

The Stereo Phase must be same on all projectors, first adjust the Stereo phase on the projector where the IR Emitter signal comes from, then put the same value on the other projectors as well.

For more detailed information on how to adjust these parameters (see "Stereo Options", page 111).

For more detailed information on synchronous /asynchronous mode (see "Forced Asynchronous", page 117).

4.7.2.2 Single CADWall Configuration



This chapter will describe the Stereo Connections for e.g. a Triple-Channel CADWall Setup.

How to connect the Stereo Signals in a Single CADWall Configuration?

1. Connect the Stereo Sync Signal coming from the IG to the Stereo In Mini DIN Input of all the projectors used in the Multi-Channel Configuration. (image 4-8)
Note: On some IG's, the Stereo Sync is already present in the Vertical Sync Signal.
Note: On some IG's, the Stereo Sync is added to the Vertical Sync Signal.
2. Connect a 'Phased L/R Signal' BNC Connector of the first projector to a 'Phased L/R Signal' BNC Connector of the second projector.
3. Continue until the Phased L/R Signal is connected 'Looped Through' to all the projectors of the Multi-Channel Configuration.
4. Connect the 'IR Emitters to a free 'Phased L/R Signal' BNC Connector.

All projectors will run on a common Stereo Sync (Phased L/R) Signal.

All Stereo IR Emitters will work in sync.

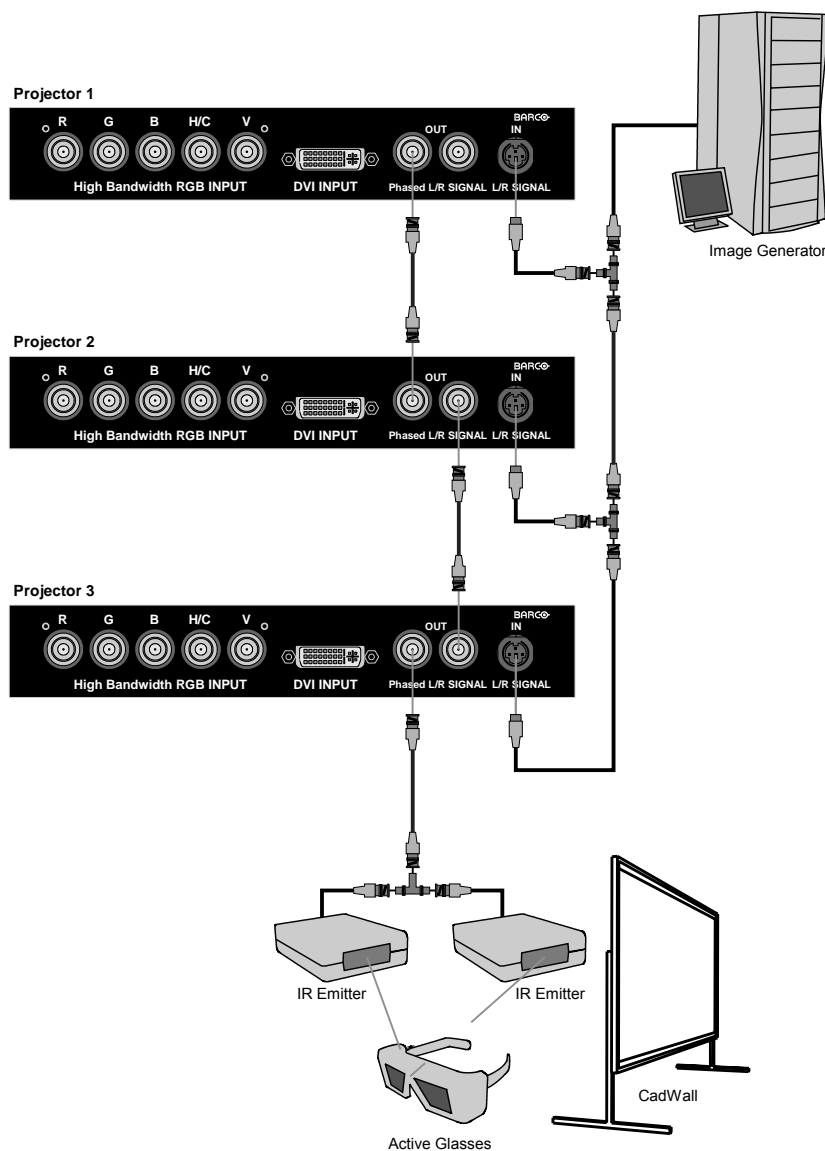


Image 4-8
Stereo Signal Connections in a Single CADWall Configuration

4.7.2.3 Multiple CADWall (Showroom Installation)



This chapter will describe the Stereo Connections for e.g. a setup with 2 Triple-Channel CADWalls in the same room e.g. a Showroom. Both CADWalls have their own IG. We assume only the IG used by CADWall 1 has an Synchronous Output Range.



It is possible to let CADWall 1 work synchronous with IG 1. The projectors of CADWall 2, that are in asynchronous mode, will then display the image at the frequency of IG 1.

Respect the following 2 rules when setting up such a configuration:

1. The IR Emitter must be connected to a projector running in Synchronous Mode.
 2. All projectors connected to the synchronous IG must be set in Synchronous Mode.
 3. All other projectors (CadWall2, CadWall3, ...) must be set in Forced Asynchronous Mode.
-

How to connect the Stereo Signals in a Multiple CADWall Configuration (Showroom Installation)?

1. The Stereo Sync Signal coming from both IG's is connected to the Stereo In Mini DIN Inputs of both Multi-Channel Configurations. (image 4-9)
Note: On some IG's, the Stereo Sync is already present in the Vertical Sync Signal.
2. Connect a 'Phased L/R Signal' BNC Connector of the first projector to a 'Phased L/R Signal' BNC Connector of the second projector.
3. Continue until the Phased L/R Signal is connected 'Looped Through' to all the projectors of both Multi-Channel Configurations.
4. Connect the 'IR Emitters to a free 'Phased L/R Signal' BNC Connector on a projector that is set to Synchronous Mode.
All projectors will run on a common Stereo Sync (Phased L/R) Signal.
All Stereo IR Emitters in the room will work in sync.

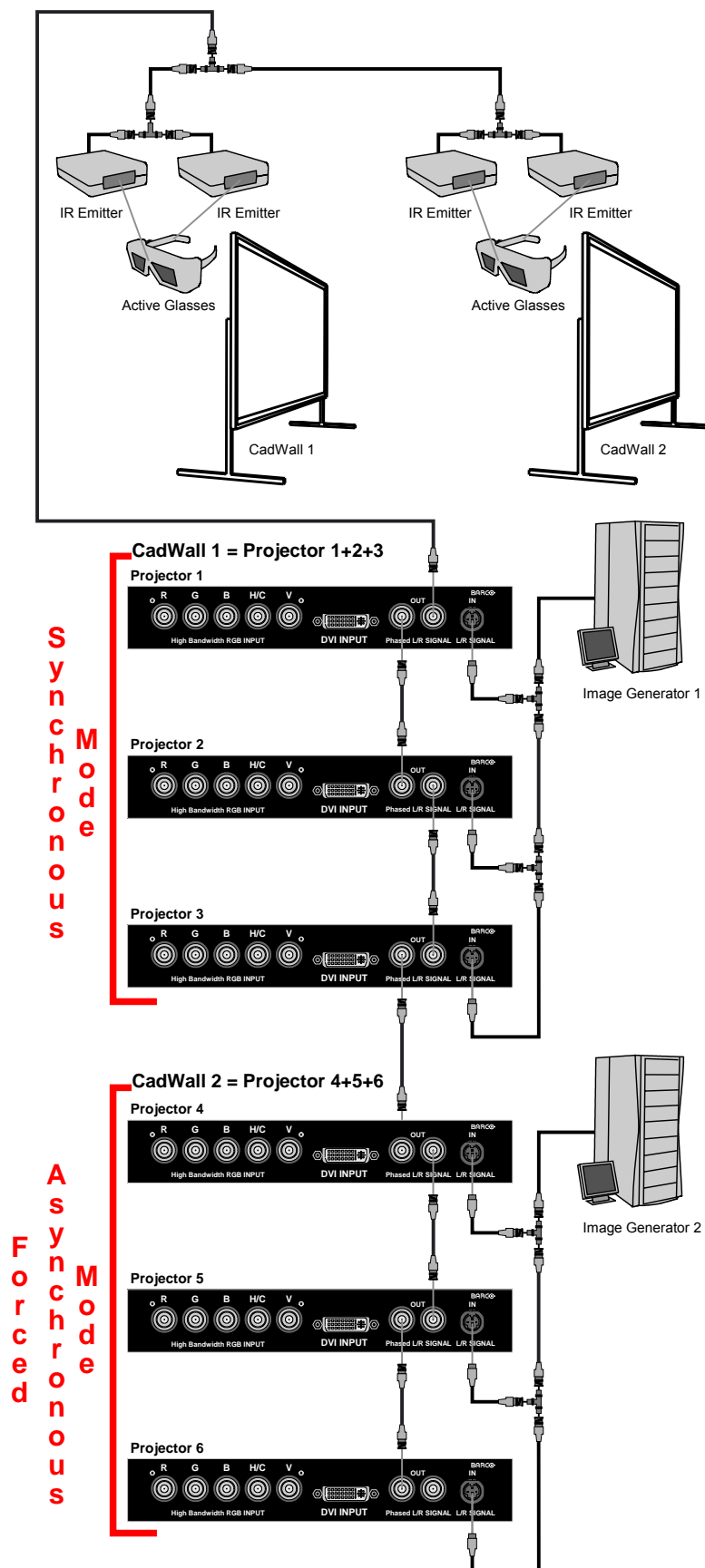


Image 4-9
Stereo Signal Connections in a Multiple CADWall Configuration

5. GETTING STARTED

Overview

- RCU & Local keypad
- Terminology overview
- Operating the projector
- Quick Set Up Adjustments
- Using the RCU
- Controlling the Projector

5.1 RCU & Local keypad

How controlling the projector ?

The projector can be controlled by the local keypad or by the remote control unit.

Location of the local keypad ?

The local keypad is located on the input side of the projector.

Remote control functions.

This remote control includes a battery powered infrared (IR) transmitter that allows the user to control the projector remotely. This remote control is used for source selection, control, adaptation and set up. It includes automatic storing of picture controls (Brightness, Sharpness...) and settings.

Other functions of the remote control are :

- switching between stand by and operational mode.
- switching to "pause" (blanked picture, full power for immediate restarting)
- direct access to all connected sources.

5.2 Terminology overview

Overview

The following table gives an overview of the different functionalities of the keys.

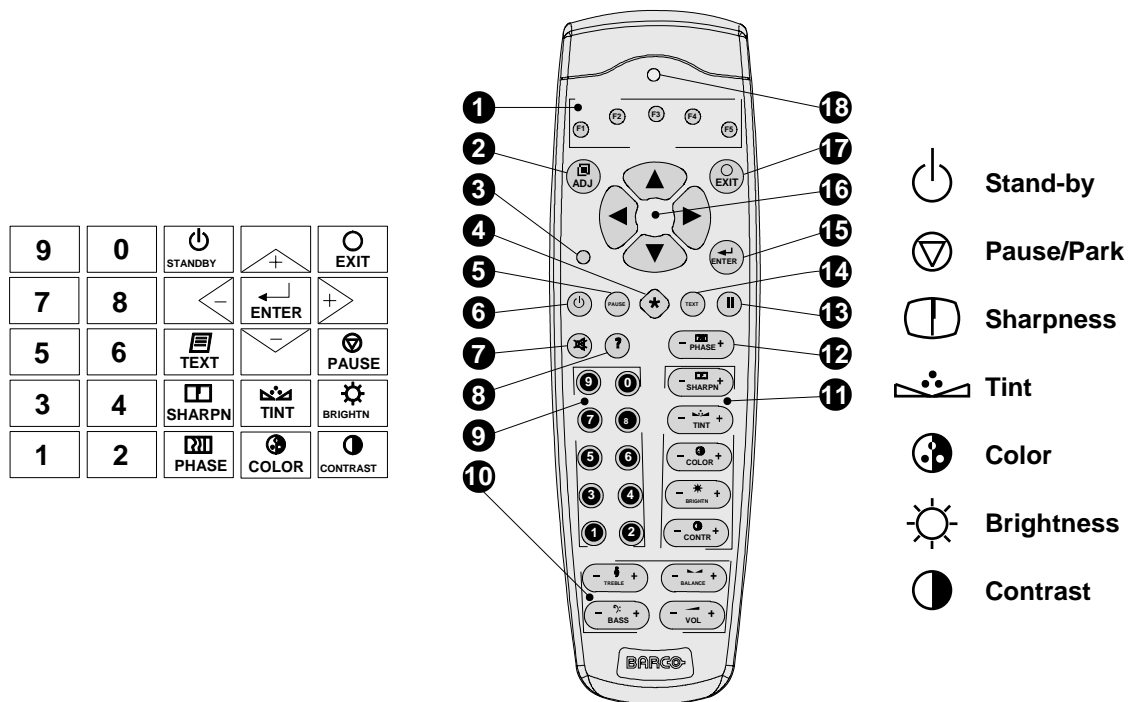


Image 5-1
RCU & Local Keypad overview

1	Function keys	user programmable keys with functions for direct access.
2	ADJ.	Adjust key, to enter the adjustment mode
3	Address key	(recessed key), to enter the address of the projector (between 0 and 9). Press the recessed address key with a pencil, followed by pressing one digit button between 0 and 9.
4	Selection key (*)	to direct access the zoom/focus/shift functions.
5	PAUSE	to stop projection for a short time, press 'PAUSE'. The image disappears but full power is retained for immediate restarting.
6	STBY	standby button, to start projector when the power switch is switched on and to switch off the projector without switching off the power switch. Attention : Switching to Standby. When the projector is running and you want to go to standby, press the standby key for 2 seconds until the message 'Saving data, please wait' is displayed. Do not press any longer on the standby key otherwise the projector will restart.
7	MUTE	not used
8	?	not used
9	Digit buttons	direct input selection.
10	Audio controls	not used
11	Picture controls	use these buttons to obtain the desired color setting.
12	Phase	used to remove the instability of the image.
13	FREEZ	press to freeze the projected image.
14	TEXT	when adjusting one of the image, e.g. controls during a meeting, the displayed bar scale can be removed by pressing 'TEXT' key first. To re-display the bar scale on the screen, press 'TEXT' key again.
15	ENTER	to start up the adjustment mode or to confirm an adjustment or selection in the adjustment mode.

16	Cursor keys	to make menu selections when in the adjustment mode or to zoom/focus when the direct access is active. Comparison between the cursor keys and the use of the '+' and '-' keys on the local keypad : RCU = local keypad cursor key up = '+' key up cursor key down = '-' key down cursor key right = '+' key right cursor key left = '-' key left
17	EXIT	to leave the adjustment mode or to scroll upwards when in the adjustment mode.
18	RCU operation indication	lights up when a button on the remote control is pressed. (This is a visual indicator to check the operation of the remote control)

Table 5-1

5.3 Operating the projector

Overview

- Switching On
- Switching to standby
- Switching off
- Temperature error DMD

5.3.1 Switching On

How to switch on ?

1. Press the power switch to switch on the projector.
 - When '0' is visible, the projector is switched off.
 - When '1' is visible, the projector is switched on.

The projector starts in standby mode. The projector indication lamp is red.

Starting image projection

1. Press **Stand by** key once on the local keypad or on the remote control. (image 5-2)

The projector mode indication lamp will be green.

Or,

Press a digit button to select an input source.

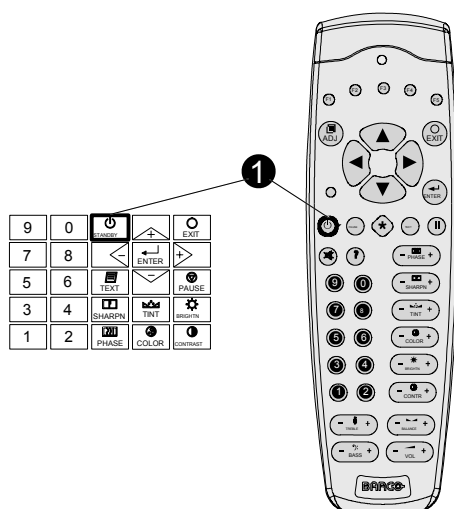


Image 5-2
Standby key

Lamp Run time indication

see chapter "4. Connections", "Switching On", page 19

Lamp Light output indication

see chapter "4. Connections", "Switching On", page 19

5.3.2 Switching to standby

How to switch to standby?

1. Press **Standby** to switch the projector to standby.



Switching to Standby. When the projector is running and you want to go to standby, press the standby key for 2 seconds until the message 'Saving data, please wait' is displayed. Do not press any longer on the standby key otherwise the projector will restart.

5.3.3 Switching off

How to switch off the projector?

1. Press first **Standby**.
2. Let cool down the projector until the fans stop blowing, at least 15 min.
3. Switch off the projector with the power switch.

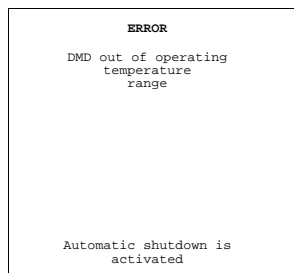
5.3.4 Temperature error DMD

Overview

When the temperature of one of the DMD is too low or too high the projector will be switched automatically to standby. Before switching to standby, the following message appears for 3 seconds on the screen : 'DMD out of operating temperature range. Automatic shutdown is activated.'

A '-t' appears on the LED display to indicate the user that the projector is switched to standby due to DMD temperature problems.

Operating temperature range of the DMD : +10°C and +35°C.



Menu 5-1

5.4 Quick Set Up Adjustments

Overview

- Quick Lens Adjustment
- Quick OSD Color Change

5.4.1 Quick Lens Adjustment

What can be done?

This will adjust the zoom, focus, horizontal shift and vertical shift settings of the lens.

Quick Lens Adjustment

1. Press the * key to start up the *Quick Lens Adjustment* menu.

The *Zoom/Focus Adjustment* menu will be displayed. (image 5-3)

2. Push the cursor key \uparrow or \downarrow to zoom and \leftarrow or \rightarrow to focus the image.

3. Press **ENTER** to continue with the *Shift Adjustment* menu.

The *Shift Adjustment* menu will be displayed. (image 5-4)

4. Push the cursor key \uparrow or \downarrow to shift the image up or down and \leftarrow or \rightarrow to shift the image left or right.

Note: Due to optical and mechanical limitations each lens type has its own shift capability, following illustration shows the shift capability for the available lenses in a *Front / Table* configuration. (image 5-5)

5. Press **EXIT** to leave the *Quick Lens Adjustment* menu.

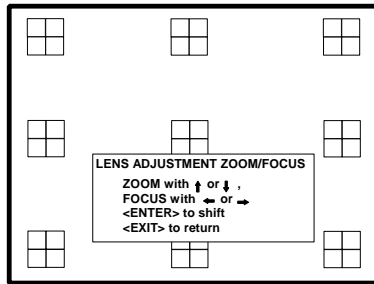


Image 5-3
Zoom/Focus adjustment menu

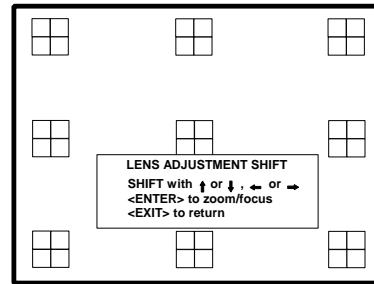
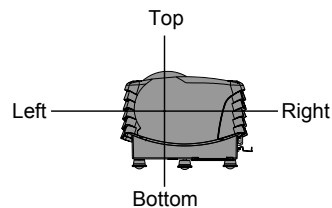


Image 5-4

Back View
Front / Table Configuration



TLD 0.8 :1

TLD 1.2 :1

TLD 1.6 - 2.0 :1
TLD 2.0 - 2.8 :1
TLD 2.8 - 5.0 :1
TLD 5.0 - 8.0 :1

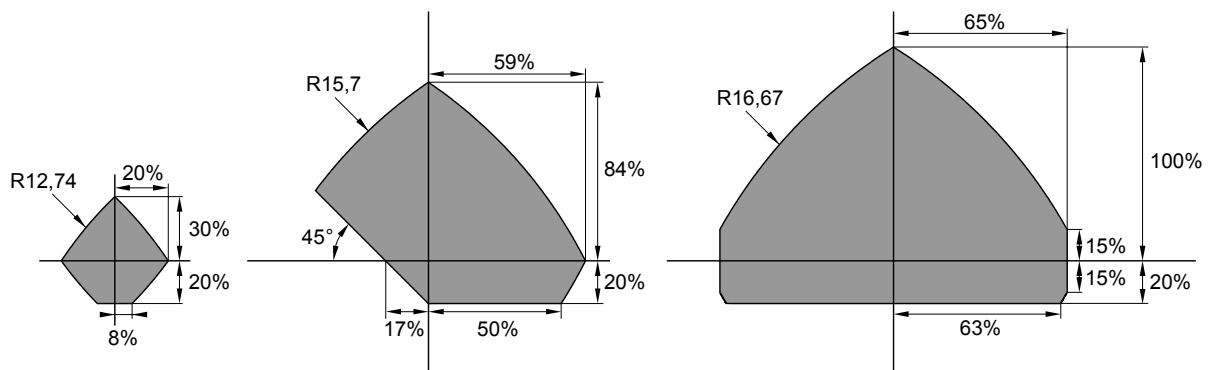


Image 5-5
Shift Capability for the available lenses in a *Front / Table* configuration

5.4.2 Quick OSD Color Change

What can be done?

Quick change of the color of the highlighted items.

The highlighted items can be displayed in:

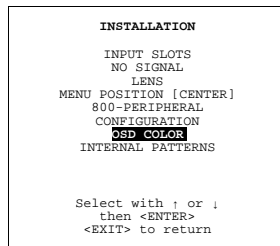
- Red
- Green
- Yellow

How to change the On Screen Color

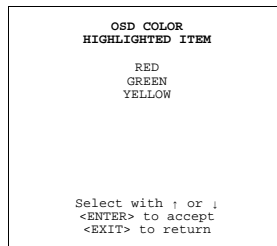
1. Press **ADJUST** or **ENTER** key to start up the *Adjustment Mode*.
2. Push the cursor key ↑ or ↓ to highlight *Installation*. (menu 5-2)
3. Press **ENTER** to select.

The *OSD* menu will be displayed. (menu 5-3)

4. Push the cursor key ↑ or ↓ to highlight *the desired color*.
5. Press **ENTER** to activate the selected color.



Menu 5-2



Menu 5-3

5.5 Using the RCU

Pointing directly to the IR Sensor

When using the wireless remote control, make sure you are within the effective operating distance, in a straight line: 30m (100ft). The remote control unit will not function properly if strong light strikes the sensor window or if there are obstacles between the remote control unit and the projector IR sensor.

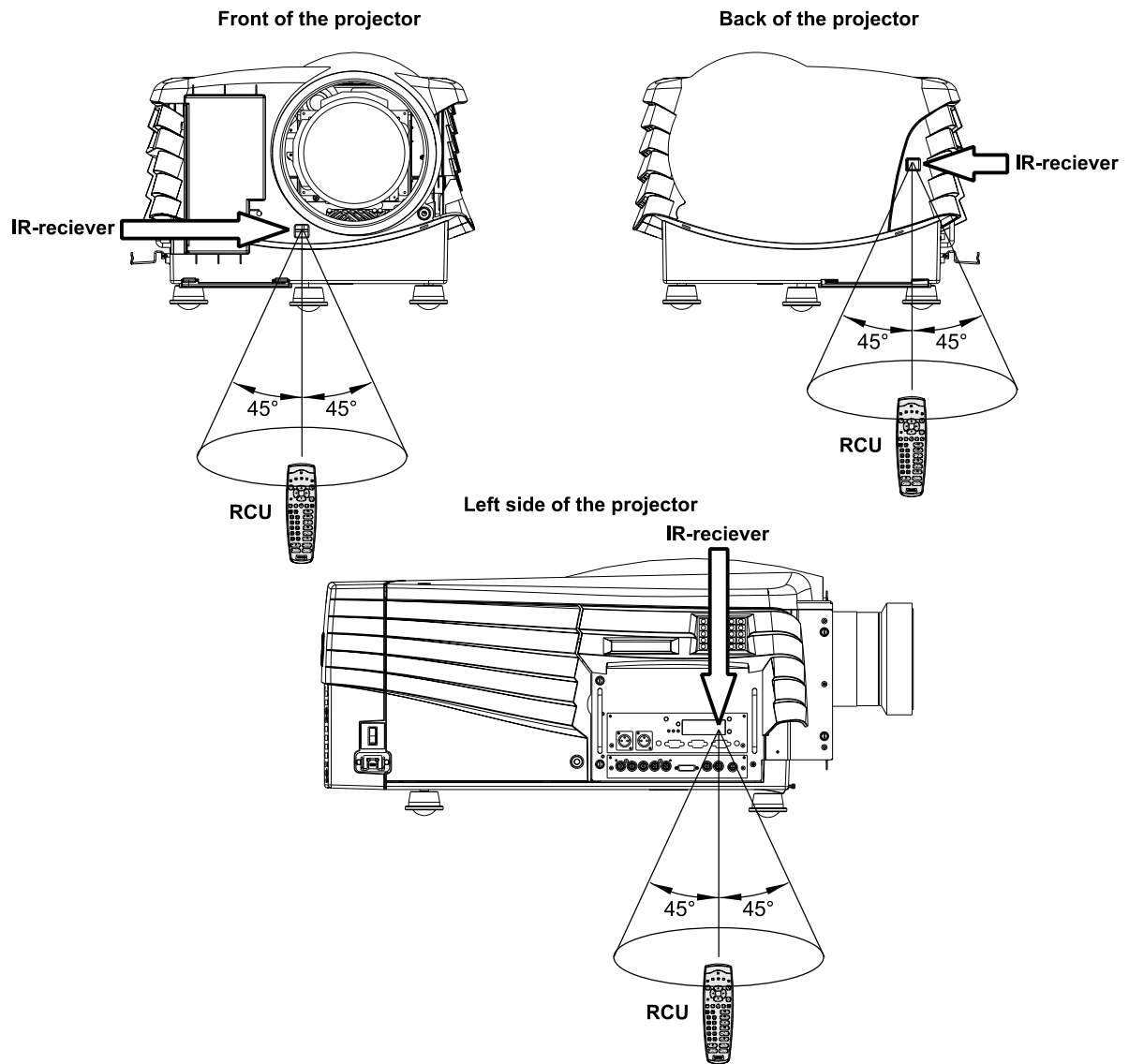


Image 5-6
RCU to IR Sensors

The IR Communication Leds

- Whenever the IR Sensor on the projector receives an IR signal the Red IR-Received Led will light up.

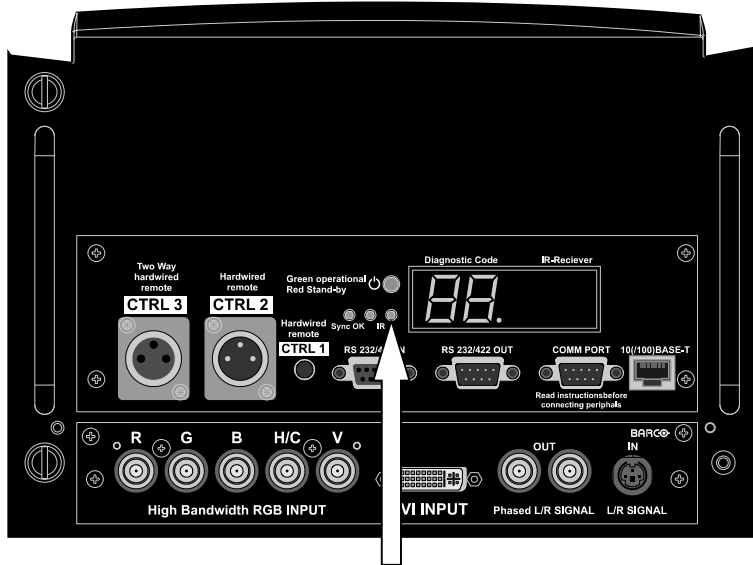


Image 5-7
IR-Received Led

- In case there is IR communication between the RCU and the projector the Green IR-Acknowledged Led will light up.

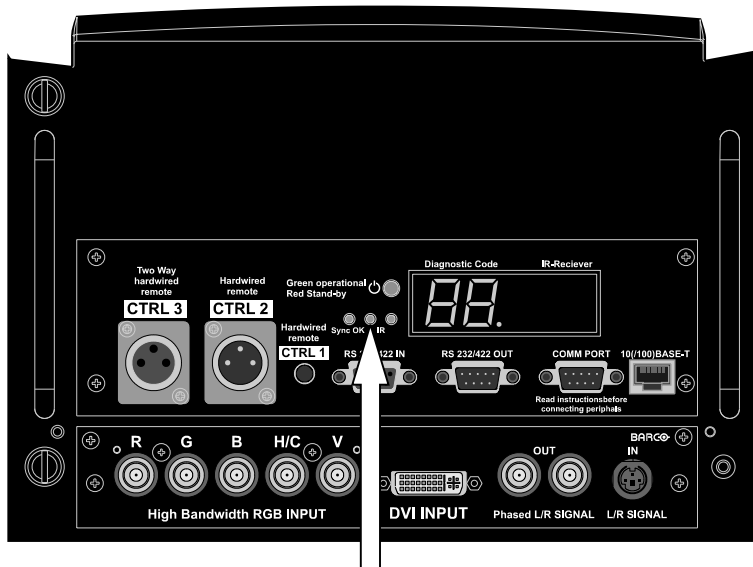


Image 5-8
IR-Acknowledged Led

Pointing to the Reflective Screen

1. Point the front of the RCU to the reflective screen surface. (image 5-9)

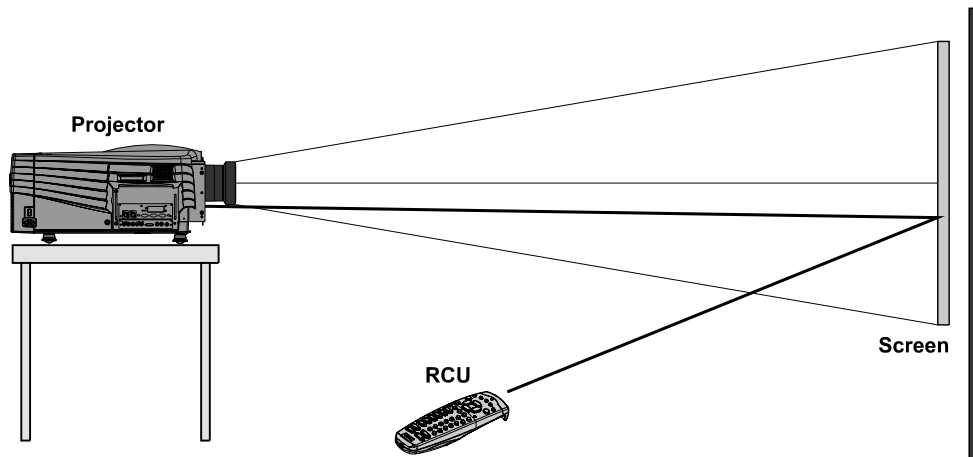


Image 5-9
RCU to Reflective Screen

Hardwired Remote Input

1. Plug one end of the remote cable in the connector on the bottom of the RCU.
2. Plug the other end in the connector in the front panel of the projector labelled **CTRL 1**. (image 5-10)

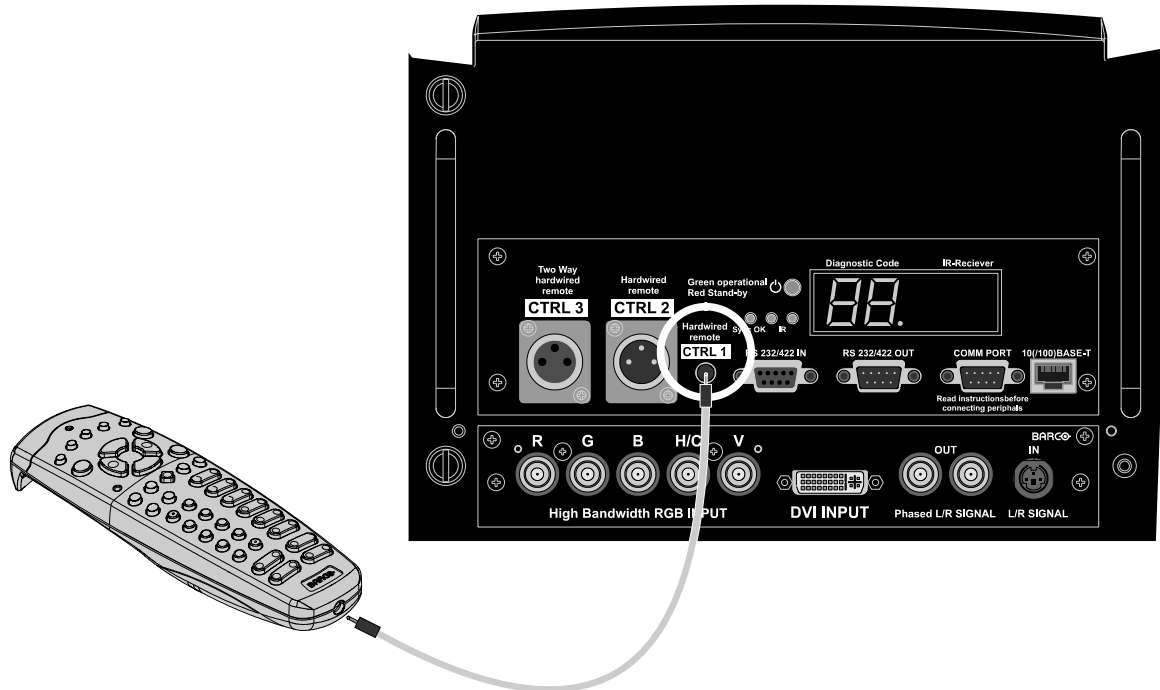


Image 5-10
RCU to Hardwired Remote Input



When using the Hardwired Remote Input the IR Sensor on the projector is disabled, the projector can only be controlled by the hardwired connected RCU.

5.6 Controlling the Projector

Overview

- Common Address
- Projector Address
- RCU Address
- Input Selection
- Picture Controls
- Menus on Local LCD Display

5.6.1 Common Address

What is Common Address 0?

Every projector has a Common Address default set to '0', when the RCU is set to address '0', every projector, without exception will listen to the commands given by this RCU.

When to use Common Address 0?

- Since the RCU is default set to address '0', this is used by default to control the projector in a single projector setup.
- The Common Address is used to control multiple projectors using only a single RCU.

When to use Common Address 1?

Most RCU's used by other electronic equipment are set to address '0', to disable the interference of other RCU's the Common Address of the projector(s) can be set to '1'. When the projector's RCU is set to address '1', every projector, without exception will listen to the commands given by this RCU.

How to set the Common Address?

See 'Change Common Address' in the chapter 'Service Mode'.

5.6.2 Projector Address

When to use the Projector Address?

To control a separate projector in a multiple projector setup.

What is the Projector Address?

Each projector can be set to an individual Projector Address, this can be set between '0' and '255'.

Projector Address	Controlled by
0-9	RCU
0-255	Computer (IBM PC or compatible, Apple, ...)



Regardless of the Projector Address, the projector will still respond to a RCU set to address '0' or '1' through the Common Address.

How to set the Projector Address?

See 'Change Projector Address' in chapter 'Service Mode'.

5.6.3 RCU Address



The RCU Address can be any digit between '0' and '9'.

How to set the RCU Address?

1. Press the recessed **Address** key with a pencil. (image 5-11)

The Projector Address for every projector in the room will be displayed as a 3 digit code in a text box on the screen.

2. Enter the RCU Address by pressing a single digit key, within 5 seconds after pushing the address key.

Note: If the Projector Address displays '003' press the digit key **3** on the RCU. Do not enter the 3 digit code '003', this will set the RCU to address '0'.

Note: If no digit is entered within 5 seconds the RCU will return to the default '0' address.

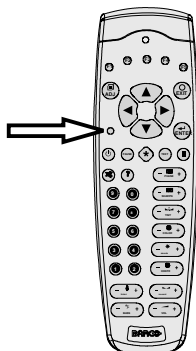


Image 5-11
Address Key

5.6.4 Input Selection

How to select the desired input?

1. Press the digit key on the RCU corresponding with the desired input.

Digit Key	Type of Input
1	5x BNC Cable Input
2	DVI Input

Table 5-3
Input Selection

5.6.5 Picture Controls

How to use Picture Controls?

1. Push the **+** or **-** key of the desired Picture Control e.g. 'brightness'. (image 5-12)

A text box with a bar scale indication and function name of the control, e.g. 'brightness' appears on the screen. The length of the bar scale and the value of the numeric indication indicate the current memorized setting for this source. The length of the bar scale and the value of the numeric indication will change whenever an adjustment is made. (image 5-13)

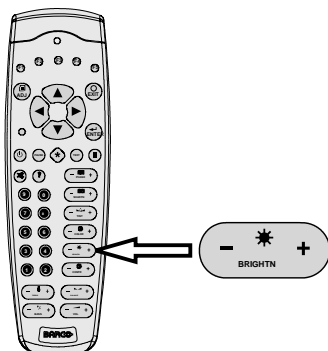


Image 5-12
Picture Control key

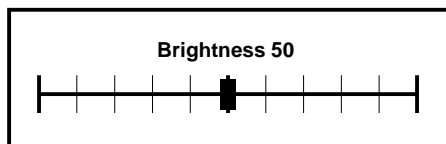


Image 5-13
Barscale indication

Overview of the Picture Controls

Sharpness	Use the + button for a sharper picture. Use the - button for a softer picture.
Tint	Not used
Color	Not used
Brightness	A correct 'brightness' setting is important for good image reproduction. Use the + button for a higher brightness. Use the - button for a lower brightness.
Contrast	A correct 'contrast' setting is important for good image reproduction. Adjust the contrast to the level you prefer, according to room lighting conditions. Use the + button for a higher contrast. Use the - button for lower contrast.

5.6.6 Menus on Local LCD Display

Overview

When text is 'off', no menus will be displayed on the projection screen. But on the local LCD display, it is still possible to scroll through the menus. The menus will be displayed line by line in the same order as they were displayed on the projection screen. Adjustments can be done while the projector is running without projecting the disturbing menus on the screen.

Use the cursor keys to scroll through the menus and press **ENTER** to activate the displayed menu.

6. RANDOM ACCESS

Overview

- Random Access Overview
- Starting Up Random Access
- File Service
- Picture Tuning
- Geometry
- Stereo Options

6.1 Random Access Overview

Random Access Overview

- File Service
 - Load
 - Edit Warp 1
 - Edit Warp 2²
 - Rename
 - Copy
 - Delete
 - Options
 - File Sort [Name/Index]
 - File Load [Automatic/Manual]
 - Serial File Load [On/Off]
- Picture Tuning
 - Gamma
 - Input Balance
 - White Balance
 - Black Balance
 - Default
 - Windowing
 - Blanking
 - Shift
 - Size
 - Geo Soft Edge [On/Off]

2. Only available in Stereo Mode

- Geometry
 - Load
 - Edit
 - Coarse
 - Linearity
 - Fine
 - Shift
 - Transport Delay
 - Mode [Automatic/Manual]
 - Transport Delay Setting
 - Blanking/Soft Edge (Optional)
 - Active [On/Off]
 - Shape
 - Soft Edge (Optional)
 - Reset
 - Coarse
 - Linearity
 - Fine
 - Blanking/Soft Edge (Optional)
 - Soft Edge (Optional)
 - All
 - All
 - Rename
 - Copy
 - Delete
- Stereo Options²
 - Stereo Phase
 - Invert Stereo [Yes/No]
 - Master Channel [Left/Right]
 - Stereo Mode [Active/Passive]
 - Dark Time
 - Forced Asynchronous [Yes/No]

6.2 Starting Up Random Access

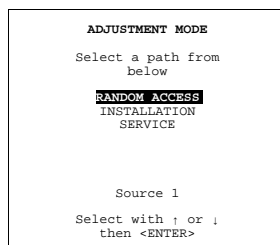
How to start up Random Access?

1. Press **ADJUST** or **ENTER** key to start up the *Adjustment Mode*. (image 6-1)

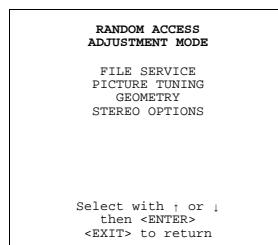
The *Adjustment Mode* menu will be displayed.

2. Push the cursor key ↑ or ↓ to select *Random Access*. (menu 6-1)
3. Press **ENTER** to select.

The *Random Access* menu will be displayed. (menu 6-2)



Menu 6-1



Menu 6-2

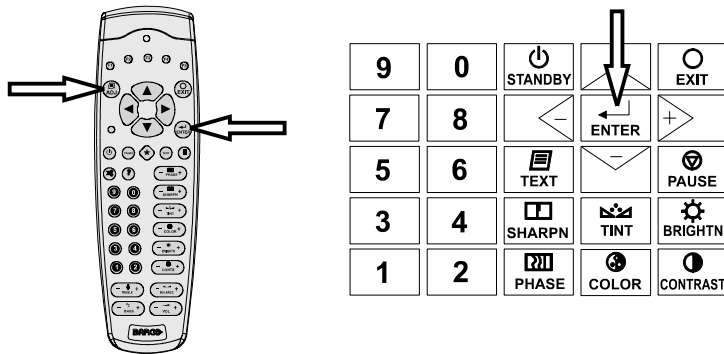


Image 6-1
Adjust or Enter key

6.3 File Service

Overview

- File annotation
- Possible file manipulations
- Starting Up File Service
- Load File
- Edit WARP1
- Edit WARP2
- Changing the settings
- Correct value
- Edit WARP2 File
- Rename File
- Copy File
- Delete File
- File Options

6.3.1 File annotation

How a file is built up

The file notation on a menu is built up in different parts. Let us have a look to these parts.

Take the following notation : xxxxxxxx.eee n ppppXppppi

xxxxxxx	base name, 8 characters
eee	file extension first character C : custom made file first character S : standard file The second and third character is used for a following number (= file index). The file index for custom files : 01 to 20.
n	source number
ppppXpppp	active pixel rating
i	i or blank i = interlaced file blank = not interlaced

Table 6-1

6.3.2 Possible file manipulations

Connecting a new source.

Before using a new source, a correct file has to be installed. The projector's memory contains a list of files corresponding to the most used sources. When the new source corresponds with one of these files, the file can be loaded and saved for future use. When there is a little difference, the file can also be loaded and then edited until the source specs are reached.



File loading can be done automatically. Files with a ~ in front of the file name are temporary files. These files will be deleted when switching to another source.

Possible file Manipulations

The following file manipulations are possible :

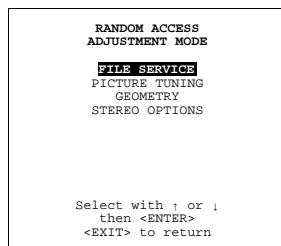
- Load : installation of a file for a new source.
- Edit : editing a loaded file to the source specs.
- Rename : renaming a file.
- Copy : copying a file.
- Delete : deleting a file
- Options : way of sorting the files.

6.3.3 Starting Up File Service

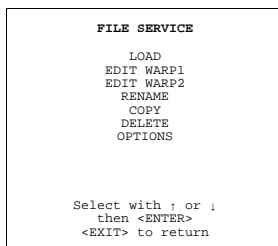
How to Start Up File Service?

1. Push the cursor key ↑ or ↓ to highlight *File Service*. (menu 6-3)
2. Press **ENTER** to select.

The *File Service* menu will be displayed. (menu 6-4)



Menu 6-3



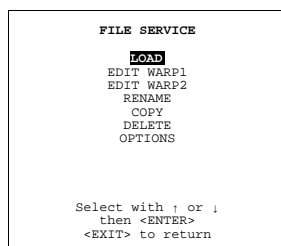
Menu 6-4

6.3.4 Load File

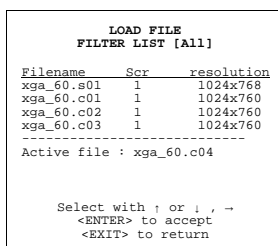
How to Start Up Load File?

1. Push the cursor key ↑ or ↓ to highlight *Load*. (menu 6-5)
2. Press **ENTER** to select.

The *Load* menu displays the corresponding files depending on the installed filter. (menu 6-6)



Menu 6-5



Menu 6-6

How to change the Filter List Setting?

1. Push the cursor key ↑ or ↓ to highlight *filter list*.
2. Press **ENTER** to toggle the annotation between brackets.

[ALL]	all files that can be loaded will be displayed
[FIT]	only the best fitting files will be displayed (with a distinction of ± 2 lines and line duration of ± 300 ns, if nothing is found within this small area, the projector continues searching until it finds something).

How to Load a File?

1. Push the cursor key ↑ or ↓ to select the best fitting file. (menu 6-7)
2. Press **ENTER** to select.

A confirm Load file menu will be displayed with the newly created file and the one on which the new file is based on. (menu 6-8)

3. Press **ENTER** to confirm the new creation or **EXIT** to return to the load file menu.

```

LOAD FILE
FILTER LIST [All]

Filename  Scr  resolution
xga_60.s01  1    1024x768
xga_60.c01  1    1024x760
xga_60.c02  1    1024x760
xga_60.c03  1    1024x760
-----
Active file : xga_60.c04

Select with ↑ or ↓ , →
<ENTER> to accept
<EXIT> to return

```

Menu 6-7

```

CONFIRM
LOAD FILE

create file
xga_60.c02
based on file
xga_60.s01?

<ENTER> to return
<EXIT> to return

```

Menu 6-8



During a load file, the actual file is displayed next to the indication *Active file*.



When scrolling through the files, the image will be adapted according to the settings of the selected file (on line adaptation) .

The image is not perfect?

If the displayed image is not correct after selecting the best fitting file, go to the Edit WARP1 menu, select the active file and change the File Settings.

6.3.5 Edit WARP1

What can be done?

- When a Mono Image is projected, within this menu, it is possible to change the File Settings of a selected source file.
- When a Stereo Image is projected, within this menu, it is possible to change the File Settings for the Left Image of a selected source file.

How to Start Up Edit WARP1 File?

1. Push the cursor key ↑ or ↓ to highlight *Edit WARP1*. (menu 6-9)
2. Press **ENTER** to select.

The Edit file adaptation menu will be displayed. (menu 6-10)

3. Select the file which must be edited (mostly the active file).

The file name will be displayed in the upper right corner. (menu 6-11)

FILE SERVICE	
LOAD	
EDIT WARP1	
EDIT WARP2	
RENAME	
COPY	
DELETE	
OPTIONS	
Select with ↑ or ↓	
then <ENTER>	
<EXIT> to return	

Menu 6-9

EDIT FILE		
Filename	Scr	resolution
xga_60.s01	1	1024x768
xga_60.c01	1	1024x760
xga_60.c02	1	1024x760
xga_60.c03	1	1024x760

Active file : xga_60.c04		
Select with ↑ or ↓, →		
<ENTER> to accept		
<EXIT> to return		

Menu 6-10

EDIT FILE xga_60.c02		
HORIZONTAL		
TOTAL	1344	PIXELS
ACTIVE	1024	PIXELS
START	266	PIXELS
PERIOD	16.625	μs
VERTICAL (FIELD)		
TOTAL	800	LINES
ACTIVE	760	LINES
START	37	LINES
READ AMDS		
OPTIONS		
↑, ↓, ←, → <ENTER>, <EXIT>		

Menu 6-11

6.3.6 Edit WARP2

When available?

The Edit WARP2 adjustment is only available when a Stereo Image is projected, when projecting a Mono Image this item will be grayed out in the *File Service* menu.

What can be done?

When a Stereo Image is projected, within this menu, it is possible to change the File Settings for the Right Image of a selected source file.

How to Start Up Edit WARP2 File?

1. Push the cursor key ↑ or ↓ to highlight *Edit WARP2*. (menu 6-12)
2. Press **ENTER** to select.

The Edit file adaptation menu will be displayed. (menu 6-13)

3. Select the file which must be edited (mostly the active file).

The file name will be displayed in the upper right corner. (menu 6-14)

FILE SERVICE	
LOAD	
EDIT WARP1	
EDIT WARP2	
RENAME	
COPY	
DELETE	
OPTIONS	
Select with ↑ or ↓	
then <ENTER>	
<EXIT> to return	

Menu 6-12

EDIT FILE		
Filename	Scr	resolution
xga_60.s01	1	1024x768
xga_60.c01	1	1024x760
xga_60.c02	1	1024x760
xga_60.c03	1	1024x760

Active file : xga_60.c04		
Select with ↑ or ↓, →		
<ENTER> to accept		
<EXIT> to return		

Menu 6-13

EDIT FILE xga_60.c02		
HORIZONTAL		
TOTAL	1344	PIXELS
ACTIVE	1024	PIXELS
START	266	PIXELS
PERIOD	16.625	μs
VERTICAL (FIELD)		
TOTAL	800	LINES
ACTIVE	760	LINES
START	37	LINES
READ AMDS		
OPTIONS		
↑, ↓, ←, → <ENTER>, <EXIT>		

Menu 6-14

6.3.7 Changing the settings

Different methods

The 3 different methods to change a setting will be described hereafter. These methods are:

- with the numeric keys on the remote control.
- with the arrow keys selecting the changing digit.
- with the arrow keys counting up or down.

How to change a setting with the numeric keys?

1. Push the cursor key ↑ or ↓ to highlight an item.
The color of the selected item will change.
2. Press **ENTER** to activate the digits.
3. Enter directly with the numeric keys on the RCU or local keypad the new value.

How to change a setting with the cursor keys?

1. Push the cursor key ↑ or ↓ to highlight an item.
The color of the selected item will change.
2. Press **ENTER** to activate the digits.
3. Push the cursor key ← or → to select the changing digit.
4. Push the cursor key ↑ or ↓ to scroll to the desired digit.
5. When finished, press **ENTER** to confirm.

How to change a setting with the cursor keys and counting up or down?

1. Push the cursor key ↑ or ↓ to highlight an item.
The color of the selected item will change.
2. Press **ENTER** to activate.
3. Counting up or down by pushing the cursor key ← or →.

6.3.8 Correct value

What is already available during start up?

During the installation of a file with LOAD, the horizontal period, the total number of vertical lines and the interlaced mode are automatically measured and filled in, in the menu table. These values will be available when starting up the EDIT procedure of an active file.



CAUTION: Do not adjust these settings on an active file, they are used to identify the input source file.

How to find the correct values for the item in the Edit file menu?

Horizontal Total Pixels	<p>If the value for "Horizontal Total Pixels" is wrong sampling mistakes (small vertical bars with noisy and unsharp data in the projected image) will be seen especially in high resolution images.</p> <p>Use a pixel on/off pattern when adjusting the Horizontal Total Pixels.</p> <p>Select "Total" and adjust the pixel quantity. Adjust for zero bars.</p> <p>hint: if the number of bars increase, adjust in the other direction.</p>
Active Pixels	<p>The "Active Pixels": determine the width of the window on the screen. This value is normally given in the source specifications. If not, adjust until full image is displayed (no missing pixels).</p>
Horizontal Start	<p>number of pixels between the beginning of the input signal and the start of the video information in the signal.</p>
Horizontal Period	<p>already filled in with the correct value when active file.</p>
Vertical Total Lines	<p>already filled when an active file is selected to be edited</p>
Active Lines	<p>number of horizontal lines determining the height of the projected image. This value is normally given in the specification of the source. If not, adjust until full image height is displayed (no missing lines)</p>
Vertical Start	<p>number of lines between the start of the input signal and start of the image on the screen.</p>

Interlaced [On] or [Off]	this selection is automatically filled when active file has to be edited. If the image is wrong due to mismeasurement, use the ENTER key to toggle between [On] and [Off]. (for interlaced images, 1 frame contains 2 fields).
Read AMDS	AMDS = automatic mode detection & synchronization During the installation of a file with LOAD, the system automatically measured the horizontal period, the total vertical lines and the interlaced mode. When selecting Read AMDS, the system remeasures the above indicated items.

How to install the correct settings for the options in the Edit file menu.

EDIT FILE OPTIONS	
Source number	1
Clamp position	[leading]
Clamp delay	0
Clamp width	10
Field polarity	[pos]
Field select	[both]
Vertical refresh	[sync]
Vertical sync polarity	[leading]
Select with ; or <ENTER> to toggle ; or to change value <EXIT> to return	

Menu 6-15

Source number	The source number of a non-active source can be changed to any other source number. This makes it possible to create a file for future source numbers.
Clamp position	Clamping determines the black level of the signal. The clamp pulse can be related to the leading or the trailing edge of the sync pulse. Use the ENTER key to toggle between [leading] and [trailing].
Clamp delay	The time between the leading edge of the clamp pulse and the locked edge of the sync pulse. Can be any value between 0 and 255. Change the value by pushing the cursor key ↑ or ↓.
Clamp width	The width of the clamp pulse can be any value between 0 and 255. Change the value by pushing the cursor key ↑ or ↓.

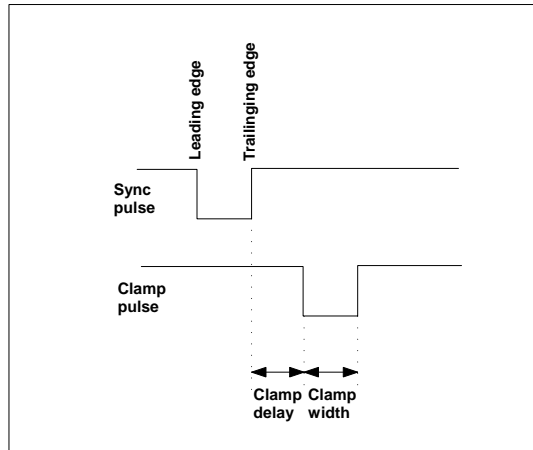


Image 6-2
Example for Clamp position [trailing]

Field polarity	The field polarity function is used for interlaced images. Both rasters of the image could be shifted in a wrong way (double lines are visible in the image). This can be corrected by forcing the field polarity to [neg] or [pos]. Use the ENTER key to toggle between [pos] and [neg].
Field select	Default [both] The field select is only used for interlaced images. One frame of an interlaced image contains two fields, an even and an odd field. The choice exists to project [both] fields on the screen or only the [even] or [odd] field. Use the ENTER key to toggle between [both], [even] and [odd]. If the active Stereo Compatibility Option is installed, the field select parameter will be changed into a [left] and [right] selecting parameter which will be selectable for stereo files. This setting will then be saved in the active image file.

Vertical refresh [sync/async]	<p>The way of updating the image information on the DMD panels. Not available for PAL-NTSC-SECAM sources. Where this option will be displayed in gray.</p> <ul style="list-style-type: none"> For sources with a vertical frequency up to 62 Hz : the vertical refresh rate is the same as the vertical frequency of the incoming source. This is a necessity to project moving images without 'motion artifacts'. For stationary images with a vertical frequency up to 62 Hz it is still possible to use asynchronous refresh. For sources with a vertical frequency higher than 62 Hz : the vertical refresh is different than the vertical frequency of the incoming source. Synchronous refresh cannot be used.
Vertical Sync Polarity: [leading] or [trailing]	<p>The vertical refresh can be synchronized with the leading sync edge or trailing sync edge. Default on [leading]. Toggling to [trailing] is only necessary for special applications where the trailing edge of the sync signal has to be taken as a reference. Use the ENTER key to toggle between [leading] or [trailing]</p>

6.3.9 Edit WARP2 File

What can be done?



This item is only available when running in Stereo Mode.

How to Start Up Edit WARP2 File?

1. Push the cursor key ↑ or ↓ to highlight *Edit WARP2*.
2. Press **ENTER** to select.

The Edit file adaptation menu will be displayed. (menu 6-16)

EDIT FILE		
Filename	Scr	resolution
xga_60.s01	1	1024x768
xga_60.c01	1	1024x760
xga_60.c02	1	1024x760
xga_60.c03	1	1024x760

Active file : xga_60.c04		
Select with : or ↓ , →		
<ENTER> to accept		
<EXIT> to return		

Menu 6-16

6.3.10 Rename File

How to Start Up File Rename?

1. Push the cursor key ↑ or ↓ to highlight *Rename*. (menu 6-17)
2. Press **ENTER** to select.

The Rename selection menu will be displayed. (menu 6-18)

3. Push the cursor key ↑ or ↓ to select a file name.
4. Press **ENTER** to select.

The Rename file menu will be displayed with the selected file name already filled in, leave in the 'From file name :' area and in the 'To file name :' area. The first character in the 'To file name :' area is highlighted.

FILE SERVICE	
LOAD	
EDIT WARP1	
EDIT WARP2	
RENAME	
COPY	
DELETE	
OPTIONS	
Select with : or ↓	
then <ENTER>	
<EXIT> to return	

Menu 6-17

RENAME FILE		
Filename	Scr	resolution
xga_60.s01	1	1024x768
xga_60.c01	1	1024x760
xga_60.c02	1	1024x760
xga_60.c03	1	1024x760

Active file : xga_60.c04		
Select with : or ↓ , →		
<ENTER> to accept		
<EXIT> to return		

Menu 6-18

Changing the characters

1. Push the cursor keys ← or → to select the desired character. (menu 6-19)
Or,
Change that character by pushing the cursor keys ↑ or ↓. Numeric characters can be entered directly with numeric keys on the RCU.
Or,
Press **ENTER** to confirm.
The renamed file is entered in the list of files.
2. Press **EXIT** to return to the Rename menu selection.
No changes are made.

```

      RENAME FILE

      From file name:
      xga_60.c02
      To file name :
      demo.c02

      Select with - or -
      Reprogram with ; or ;
      <ENTER> to confirm
      <EXIT> to return

```

Menu 6-19

6.3.11 Copy File

How to Start Up Copy File?

1. Push the cursor key ↑ or ↓ to highlight **Copy**. (menu 6-20)
2. Press **ENTER** to select.
The Copy selection menu will be displayed. (menu 6-21)
3. Push the cursor key ↑ or ↓ to select a file name.
4. Press **ENTER** to select.

The Copy file menu will be displayed with the selected file name already filled in, leave in the 'From file name :' area and in the 'To file name :' area. The first character in the 'To file name :' area is highlighted.

```

      FILE SERVICE

      LOAD
      EDIT WARP1
      EDIT WARP2
      RENAME
      COPY
      DELETE
      OPTIONS

      Select with ; or ;
      then <ENTER>
      <EXIT> to return

```

Menu 6-20

```

      COPY FILE

      Filename  Scr  resolution
      xga_60.s01  1    1024x768
      xga_60.c01  1    1024x760
      xga_60.c02  1    1024x760
      xga_60.c03  1    1024x760
      -----
      Active file : xga_60.c04

      Select with ; or ; , -
      <ENTER> to accept
      <EXIT> to return

```

Menu 6-21

Changing the characters

1. Push the cursor key ← or → to select the desired character. (menu 6-22)
Or,
Change that character by pushing the cursor keys ↑ or ↓. Numeric characters can be entered directly with numeric keys on the RCU.
Or,
Press **ENTER** to confirm.
The copy file is entered in the list of files.
2. Press **EXIT** to return to the Copy menu selection.
No changes are made.

```

COPY FILE

From file name:
xga_60.c02
To file name :
demo.c02

Select with - or -
Reprogram with ; or ;
<ENTER> to confirm
<EXIT> to return

```

Menu 6-22

6.3.12 Delete File

How to Use Delete File?

1. Push the cursor key ↑ or ↓ to highlight *Delete*. (menu 6-23)
2. Press **ENTER** to select.
The delete selection menu will be displayed. (menu 6-24)
3. Push the cursor key ↑ or ↓ to select a file name.
4. Press **ENTER** to select.
If [ALL] is selected, your password has to be entered before all files will be deleted.
A confirmation menu "Delete file name ?" is displayed. (menu 6-25)
5. Press **ENTER** to delete the file, press **EXIT** if you want to keep it.

Note: The active file cannot be deleted.

```

FILE SERVICE

LOAD
EDIT WARP1
EDIT WARP2
RENAME
COPY
DELETE
OPTIONS

Select with ; or ;
then <ENTER>
<EXIT> to return

```

Menu 6-23

```

DELETE FILE

Filename  Scr   resolution
xga_60.s01  1    1024x768
xga_60.c01  1    1024x760
xga_60.c02  1    1024x760
xga_60.c03  1    1024x760
-----
Active file : xga_60.c04

Select with ; or ; , -
<ENTER> to accept
<EXIT> to return

```

Menu 6-24

```

CONFIRM
DELETE FILE

Delete file :
xga_60.c02

Select with - or -
Reprogram with ; or ;
<ENTER> to confirm
<EXIT> to return

```

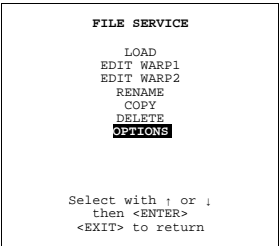
Menu 6-25

6.3.13 File Options

How to Start Up File Options?

- 1. Push the cursor key ↑ or ↓ to highlight *Options*. (menu 6-26)
- 2. Press **ENTER** to select.

The option selection menu will be displayed.



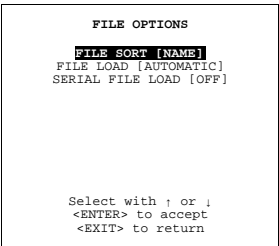
Menu 6-26

File Sort

- 1. Push the cursor key ↑ or ↓ to highlight *File Sort*. (menu 6-27)
- 2. Press **ENTER** to toggle between [NAME] or [INDEX].

This File Sort setting is default set to [NAME].

[NAME]	The files in the list will be sorted on the file name.
[INDEX]	The files in the list will be sorted on the file extension.



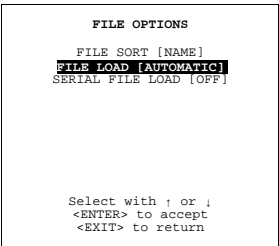
Menu 6-27

File Load

- 1. Push the cursor key ↑ or ↓ to highlight *File Load*. (menu 6-28)
- 2. Press **ENTER** to toggle between [AUTOMATIC] or [MANUAL].

This File Load setting is default set to [AUTOMATIC].

[AUTOMATIC]	The projector will automatically load the file that is best suited for the selected Input Slot.
[MANUAL]	The user will select and load the desired file.



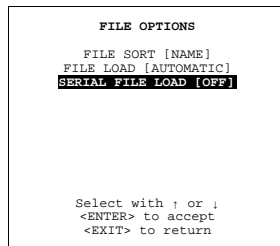
Menu 6-28

Serial File Load

1. Push the cursor key ↑ or ↓ to highlight *Serial File Load*. (menu 6-29)
2. Press **ENTER** to toggle between [OFF] or [ON].

This Serial File Load setting is default set to [OFF].

[OFF]	The Serial File Load command is set to off.
[ON]	The projector is forced to load a file through RS232, all other means to load a file are disabled until Serial File Load is set to off.



Menu 6-29

6.4 Picture Tuning

Overview

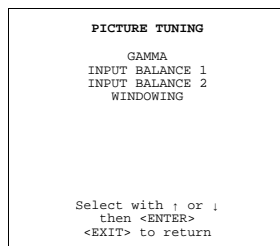
- Starting Up Picture Tuning
- Gamma
- Input Balance 1
- Input Balance 2
- Windowing

6.4.1 Starting Up Picture Tuning

How to Start Up Picture Tuning?

1. Push the cursor key ↑ or ↓ to highlight *Picture Tuning*.
2. Press **ENTER** to select.

The *Picture Tuning* menu will be displayed. (menu 6-30)



Menu 6-30

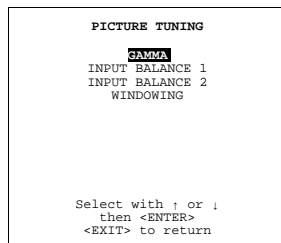
6.4.2 Gamma

What can be done?

With the gamma correction adjustment, it is possible to match the Gamma of the IG and the Projector.

How to Start Up Gamma?

1. Push the cursor key ↑ or ↓ to highlight *Gamma*. (menu 6-31)
2. Press **ENTER** to select.
The Gamma barscale will be displayed.
3. Change the Gamma Value by pushing the cursor key ← or → until the desired value is reached.
Note: Default value of gamma : 1.9
4. Press **EXIT** to return to the *Picture Tuning* menu.



Menu 6-31

6.4.3 Input Balance 1

Why adjusting the Input Balance?

The input balance is normally correct adjusted in the factory. But due to signal distribution or signal transmission outputs a color imbalance can be the result. This imbalance can be adjusted source by source for color critical applications. These adjustments influence only the actual custom adjustment file. This procedure is not so easy and is best done or first demonstrated by an authorized Barco service technician.

What can be done?

- When a Mono Image is projected, within this menu, it is possible to adjust the Input Balance of the actual projected source.
- When a Stereo Image is projected, within this menu, it is possible to adjust the Input Balance of the Left Image.

Steps to be taken

To adjust the input balance, the following steps have to be executed in the following order:

1. The procedure is best done when using a source that can generate a full black and full white image.
2. Start with the Black Balance.
3. Continue with the White Balance.

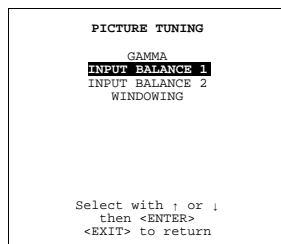


The default values are normally loaded with the factory preset when selecting a source. If the image is not as desired, continue with the next procedure.

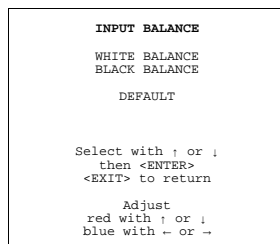
How to Start Up Input Balance 1?

1. Push the cursor key ↑ or ↓ to highlight *Input Balance 1*. (menu 6-32)
2. Press **ENTER** to select.

The *Input Balance* menu will be displayed. (menu 6-33)



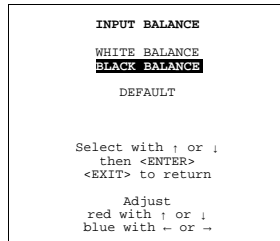
Menu 6-32



Menu 6-33

How to adjust the Black Balance?

1. Generate a full black image on the source. (image 6-3)
2. Push the cursor key \uparrow or \downarrow to highlight *Black Balance* and press **ENTER** to select. (menu 6-34)
3. Use the cursor keys \leftarrow and \downarrow to lower the Black Level of the Blue and Red color.
4. Use the **Brightness + or -** key to adjust the Black Level of the Green Color until there is $\pm 50\%$ noise visible. (image 6-4)
5. Use the \rightarrow and \uparrow key to raise the Black Level of the Blue and Red Color until there is $\pm 50\%$ noise visible.
6. Press **EXIT** to return to *Input Balance* menu.



Menu 6-34

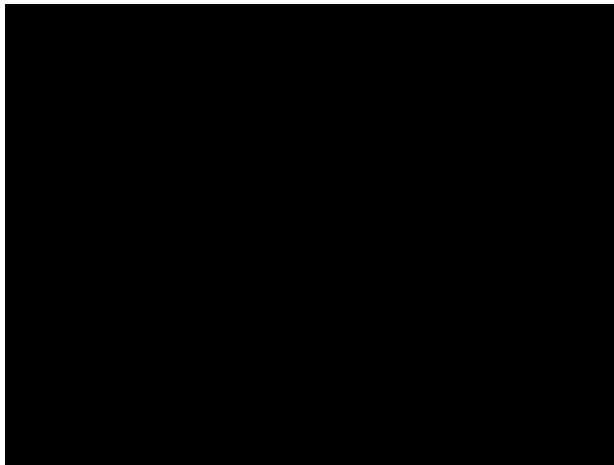


Image 6-3
Full black image on the source



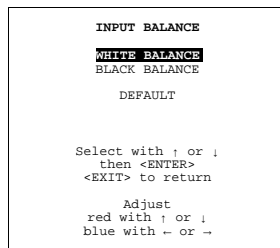
Image 6-4
Perfect Black Balance

How to adjust the White Balance?

1. Generate a full white image on the source. (image 6-5)
2. Push the cursor key \uparrow or \downarrow to highlight *White Balance* and press **ENTER** to select. (menu 6-35)
3. Use the cursor keys \leftarrow and \downarrow to lower the Gain of the Blue and Red color.

6. Random Access

4. Use the **Contrast + or –** key to adjust the Gain of the Green Color until there is $\pm 50\%$ noise visible. (image 6-6)
5. Use the **→** and **↑** key to raise the Gain of the Blue and Red Color until there is $\pm 50\%$ noise visible.
6. Press **EXIT** to return to *Input Balance* menu.



Menu 6-35



Image 6-5
Full white image on the source

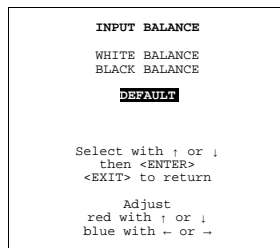


Image 6-6
Perfect White Balance

How to return to the Default Factory Preset?

1. Push the cursor key ↑ or ↓ to highlight *Default* and press **ENTER** to select. (menu 6-36)

The input balance is set to the default factory preset.



Menu 6-36

6.4.4 Input Balance 2

What can be done?

When a Stereo Image is projected, within this menu, it is possible to adjust the Input Balance of the Right Image.



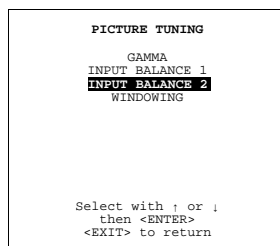
Follow the same steps as described above in 'Steps to be taken' see "Input Balance 1", page 58.

How to Start Up Input Balance 2?

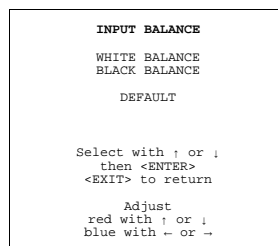
1. Push the cursor key ↑ or ↓ to highlight *Input Balance 2*. (menu 6-37)
2. Press **ENTER** to select.

The *Input Balance* menu will be displayed. (menu 6-38)

3. For more information on adjusting the White and Black Balance see "Input Balance 1", page 58.



Menu 6-37



Menu 6-38

6.4.5 Windowing

Overview

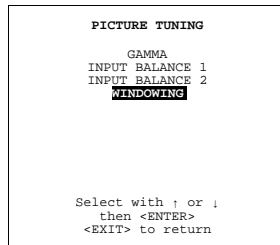
- Starting Up Windowing
- Blanking (Windowing)
- Shift (Windowing)
- Size (Windowing)
- Geo Soft Edge

6.4.5.1 Starting Up Windowing

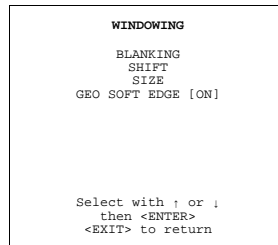
How to Start Up Windowing?

1. Push the cursor key ↑ or ↓ to highlight *Windowing*. (menu 6-39)

The *Windowing* menu will be displayed. (menu 6-40)



Menu 6-39



Menu 6-40

6.4.5.2 Blanking (Windowing)

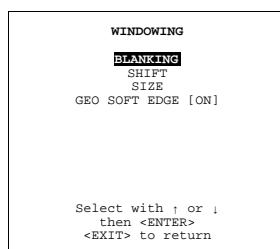
What can be done with Blanking (Windowing)?

With the Blanking function it is possible to black out the side(s) of the image while keeping the pre-distorted WARP 6™ geometry settings of the image.

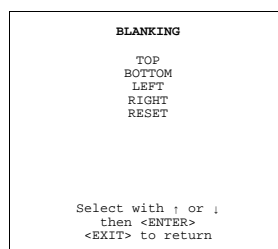
How to Start Up Windowing (Blanking)?

1. Push the cursor key ↑ or ↓ to highlight *Blanking*. (menu 6-41)
2. Press **ENTER** to select.

The *Blanking* menu will be displayed. (menu 6-42)



Menu 6-41



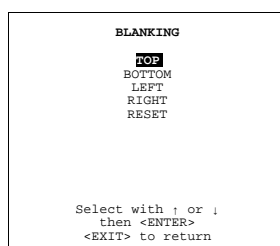
Menu 6-42

How to use the Blanking (Windowing) adjustment?

1. Push the cursor key ↑ or ↓ to highlight the desired side e.g. Top. (menu 6-43)
2. Press **ENTER** to select.

A barscale indication will be displayed. (image 6-7)

3. Push the cursor keys to black out the side(s) of the image. (image 6-8)



Menu 6-43

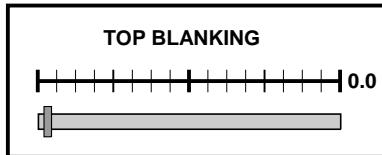


Image 6-7
Top Blanking barscale

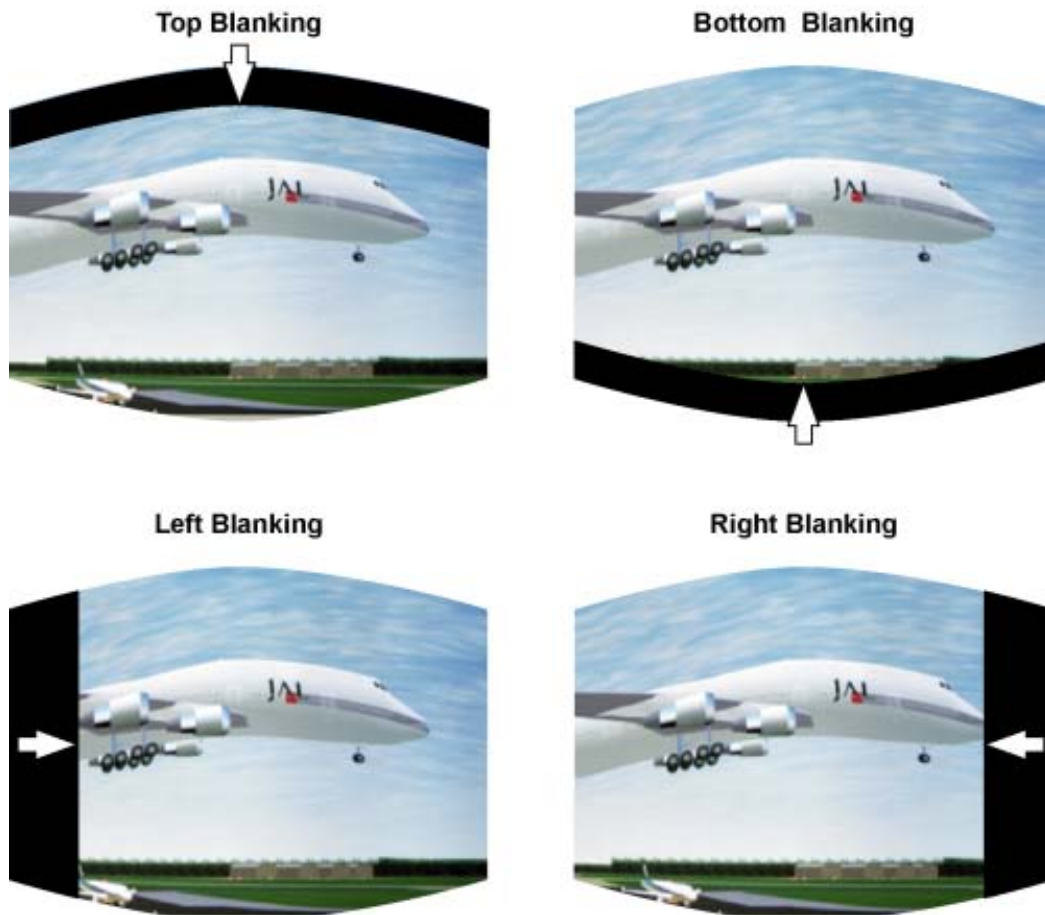
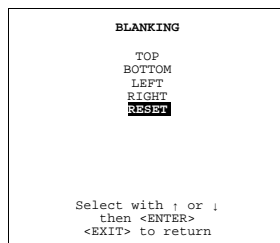


Image 6-8
Blanking (Windowing) adjustment

How to reset the Blanking adjustment(s)?

1. Push the cursor key ↑ or ↓ to highlight *Reset.* (menu 6-44)
2. Press **ENTER** to reset all blanking adjustments.



Menu 6-44

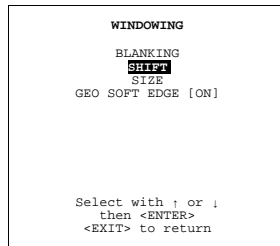
6.4.5.3 Shift (Windowing)

What can be done with Shift (Windowing)?

With the Shift function it is possible to shift the image while keeping the pre-distorted WARP 6™ geometry settings of the image.

How to Start Up the Shift adjustment?

1. Push the cursor key ↑ or ↓ to highlight *Shift*. (menu 6-45)
2. Press **ENTER** to select.
A barscale indication will be displayed. (image 6-9)
3. Push the cursor key ← or → to shift the image horizontally. (image 6-10)
4. Push the cursor key ↑ or ↓ to shift the image vertically. (image 6-11)



Menu 6-45

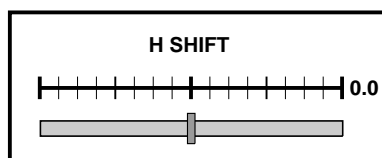


Image 6-9
Horizontal Shift barscale



Image 6-10
Horizontal Shift (Windowing) adjustment



Image 6-11
Vertical Shift (Windowing) adjustment

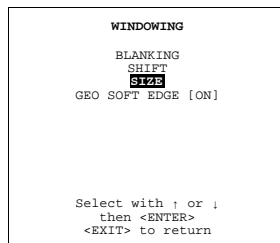
6.4.5.4 Size (Windowing)

What can be done with Size (Windowing)?

With the Size function it is possible to adjust the size of the image while keeping the pre-distorted WARP 6™ geometry settings of the image.

How to Start Up the Size adjustment?

1. Push the cursor key ↑ or ↓ to highlight *Size*. (menu 6-46)
2. Press **ENTER** to select.
A barscale indication will be displayed. (image 6-12)
3. Push the cursor key ← or → to adjust the horizontal size of the image. (image 6-13)
4. Push the cursor key ↑ or ↓ to adjust the vertical size of the image. (image 6-14)



Menu 6-46

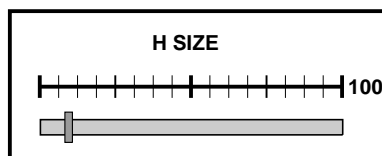


Image 6-12
H Size barscale indication

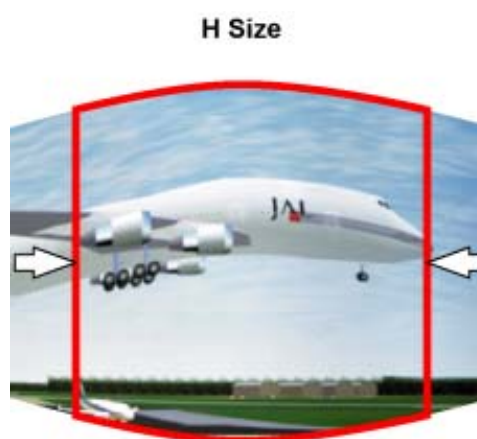


Image 6-13
Horizontal Size adjustment

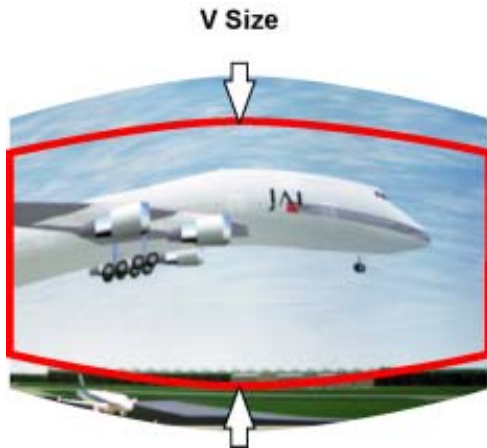


Image 6-14
Vertical Size adjustment

6.4.5.5 Geo Soft Edge

What can be done with Geo Soft Edge?

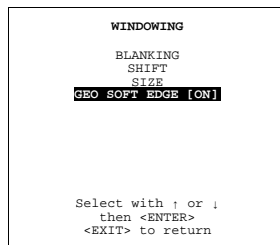
When setting up a soft edge (see Electronic Soft Edge), these settings are applied on all sources (source files). With the Geo Soft Edge toggle it is possible to disable the soft edge settings.



Geo Soft Edge is default set to On.

How to change the Geo Soft Edge Setting?

1. Push the cursor key ↑ or ↓ to highlight *Geo Soft Edge*. (menu 6-47)
2. Press **ENTER** to toggle *Geo Soft Edge* [OFF] or [ON].



Menu 6-47

6.5 Geometry

Overview

- Introduction
- Starting Up Geometry
- Geometry file annotation
- Setting up a new Geometry file
- Possible Geometry file manipulations
- Load
- Edit
- Rename
- Copy
- Delete

6.5.1 Introduction

What can be done with the WARP 6™ Geometry adjustments ?

With the new WARP 6™ fitted in the Barco Galaxy WARP™, fixed-matrix projectors can be used in a wide variety of curved-screen applications, ranging from straightforward cylindrical displays to the wildest shapes that can be imagined: by pre-distorting the image inside the projector, a correct geometry can be achieved on curved screens, without requiring additional computational power on the IG's side. Since WARP 6™ is integrated in the Barco Galaxy WARP™ Pixel Map Processor, it is an elegant and user-friendly solution for even the most demanding applications.

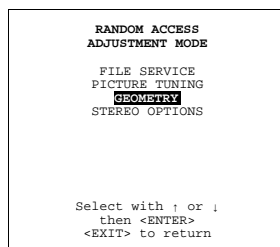
Using the intuitive user interface, bows can be set up and modified in a flash, giving the user real-time access to the distortion characteristics. For fine-tuning the image, the user has to access to individual grid points that can be shifted to their desired location.

6.5.2 Starting Up Geometry

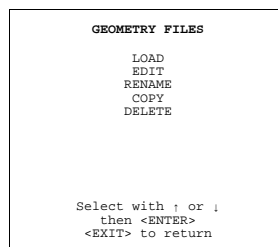
How to Start Up Geometry?

1. Push the cursor key ↑ or ↓ to highlight *Geometry*. (menu 6-48)
2. Press **ENTER** to select.

The *Geometry files* menu will be displayed. (menu 6-49)



Menu 6-48



Menu 6-49

6.5.3 Geometry file annotation

How is a Geometry file built up ?

The file notation in the *Geometry files* menu is built up in different parts. Let us have a look to these parts.

Take the following notation : xxxxxxxx.eee

xxxxxxx	base name, 8 characters
eee	file extension: first character t : geometry preset file. first character g : geometry user file. The second and third character is used for a following number (= file index). The file index for custom files : 00 to 63.

Table 6-9

6.5.4 Setting up a new Geometry file

How to set up a new Geometry file ?

1. Load the start up file: *t_nodist.t01*.
2. Select the *EDIT* menu and perform the necessary adjustments.
3. When leaving the *EDIT* menu a new geometry user file is automatically saved.

6.5.5 Possible Geometry file manipulations

What are the possible file manipulations ?

The following file manipulations are possible :

- Load : setting up a new geometry set up.
- Edit : editing a geometry file, when leaving the *EDIT* menu a geometry user file is automatically saved.
- Rename : renaming a geometry file.
- Copy : copying a geometry file.
- Delete : deleting a geometry file

6.5.6 Load

How to start up ?

To start up the *Load File* menu, handle as follow :

1. Push the cursor key ↑ or ↓ to highlight *Load*. (menu 6-50)
2. Press **ENTER** to select.

The *Load File* menu will be displayed. (menu 6-51)

```

GEOMETRY FILES

LOAD
EDIT
RENAME
COPY
DELETE

Select with ↑ or ↓
then <ENTER>
<EXIT> to return

```

Menu 6-50

```

LOAD FILE
PREVIEW[OFF]

Filename
geometry.g01
t_bowing.t06
t_bowlin.t02
t_keyst.t03
t_nodist.t01
-----
Active file : geometry.g01

Select with ↑ or ↓ , →
<ENTER> to accept
<EXIT> to return

```

Menu 6-51

How to change the Preview setting ?

1. Push the cursor key → to highlight *Preview*.
2. Press **ENTER** to toggle the *Preview* mode [OFF] [ON].

OFF	When highlighting a geometry file from the list, the geometry adjustments will be applied only when selecting a file by pressing the ENTER key.
ON	The geometry adjustments are already applied when highlighting a file from the list, this will require some processing time from the projector when scrolling through the list of available files.

How to Load a file ?

1. When starting a new set up ?
If yes, Push the ↓ key to highlight the "*t_nodist.t01*" filestep 2 (menu 6-52)
If no, When editing an existing set up push the ↑ or ↓ to highlight the corresponding user file .
2. Press **ENTER** to select.

The selected geometry file will become the active file and the *Geometry files* menu will be displayed again.

```

LOAD FILE
PREVIEW[OFF]

Filename
geometry.g01
t_bowing.t06
t_bowlin.t02
t_keyst.t03
t_nodist.t01
-----
Active file : geometry.g01

Select with ↑ or ↓ , →
<ENTER> to accept
<EXIT> to return

```

Menu 6-52

6.5.7 Edit

Overview

- Introduction
- Start up
- Coarse
- Linearity adjustment
- Fine
- Shift
- Transport Delay
- Blanking
- Electronic Soft Edge (Optional)
- Reset

6.5.7.1 Introduction

How does it work ?

- The projected image on the screen is divided in 81 zones. Each zone represents a grid point that can be shifted to the desired location. These grid points will interact with each other in a hierarchic way, adjusting a grid point on a certain hierarchic level will affect all grid points underneath.

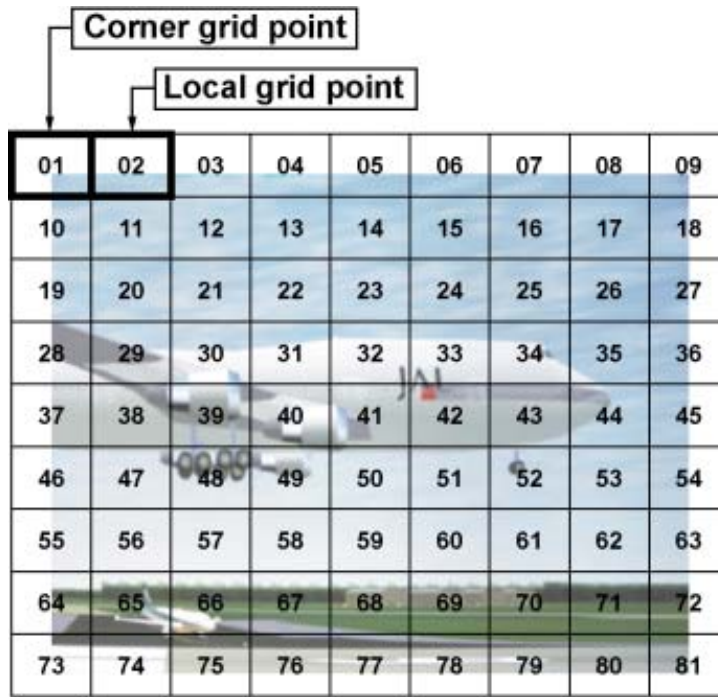


Image 6-15
81 grid points

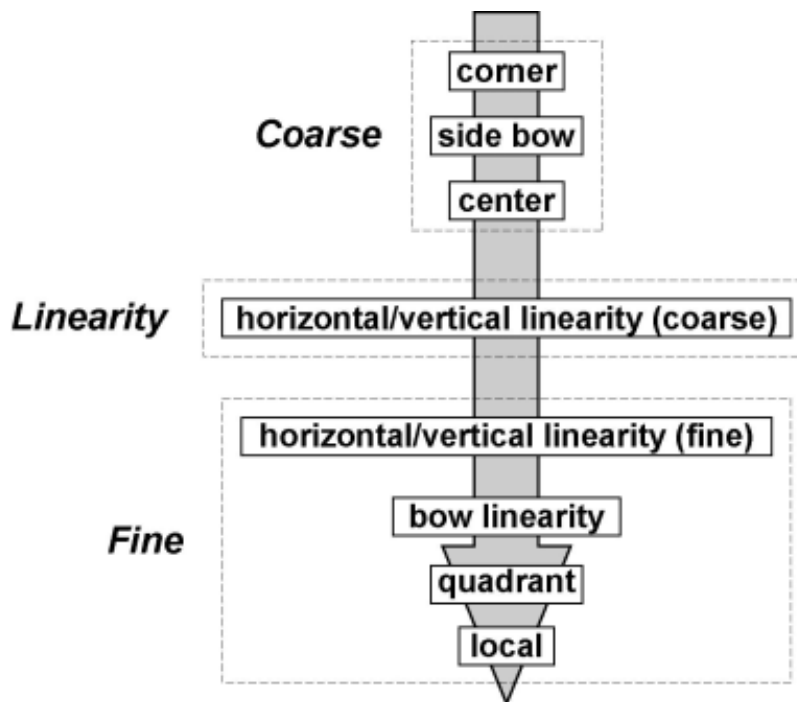


Image 6-16
Hierarchic editing structure

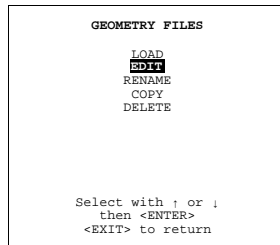
- On top of this hierarchy are the corner grid points, when adjusting these grid points all other points underneath will be adjusted.
- At the bottom of the structure we find the local points, adjusting these points will not affect any other grid points.
- The best results are obtained by applying the geometry settings in the same top to bottom order as listed in the menu interface.

6.5.7.2 Start up

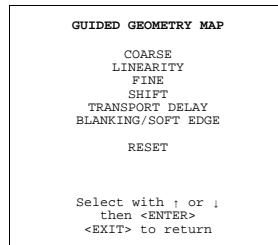
How to Start up the Edit mode ?

1. Push the cursor key ↑ or ↓ to highlight *Edit* in the *Geometry Files* menu. (menu 6-53)
2. Press **ENTER** to select.

The *Guided Geometry Map* menu will be displayed. (menu 6-54)



Menu 6-53



Menu 6-54

6.5.7.3 Coarse

Overview

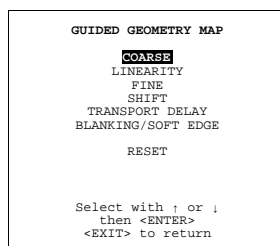
- Start up
- Corner selection
- Corner adjustment
- Side Bow selection
- Bow shaped pre-distortion set up
- Coarse linearity adjustment using Side Bows
- Center selection
- Center adjustment

6.5.7.3.1 Start up

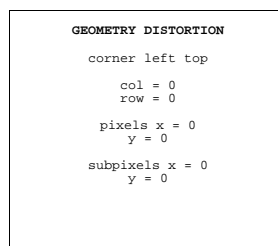
How to Start up the Coarse adjustment ?

1. Push the cursor key ↑ or ↓ to highlight *Coarse* in the *Guided Geometry Map* menu. (menu 6-55)
2. Press **ENTER** to select.

The *Geometry Distortion* menu will be displayed. (menu 6-56)



Menu 6-55



Menu 6-56

6.5.7.3.2 Corner selection

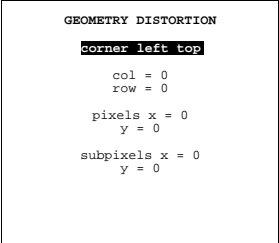
What can be done ?

With the Coarse Corner selection it is possible to adjust the basic geometry and size of the projected image.

How to select the Corners ?

- 1. Push the cursor key ↑ or ↓ to highlight the Coarse selection. (menu 6-57)
- 2. By default *corner* is already selected, if not, press **ENTER** until *corner* is displayed.
- 3. Push the cursor key ← or → to select the desired Corner.

The COL & ROW (Column and Rows) indicator³ will show the corresponding position of the selected Corner and an indication box will be displayed on the screen. (image 6-17)



Menu 6-57



Image 6-17
Coarse Corner selections

6.5.7.3.3 Corner adjustment

To change a setting, only the method using the arrow keys is mentioned in the following procedures, the projector will need to recalculate every adjustment step.

For coarse adjustments it is also possible to enter the new value directly with the numeric keys on the RCU or local keypad.

What is Pixel and Subpixel adjustment ?

Pixel	Coarse adjustment, this will shift the Corner in steps of 1 pixel
Subpixel	Fine tuning adjustment, this will shift the Corner in steps of 1/32 of a pixel

3. This COL & ROW indicates the position of the selected grid point within the 81 zones.

How to adjust the Corners ?

1. Push the cursor key \uparrow or \downarrow to select *pixel x = 0* in the *Geometry Distortion* menu. (menu 6-58)
2. Push the cursor key \leftarrow or \rightarrow to coarse shift the selected Corner in a horizontal way. (image 6-18)
3. Push the cursor key \uparrow or \downarrow to select *pixel y = 0* in the *Geometry Distortion* menu. (menu 6-59)
4. Push the cursor key \leftarrow or \rightarrow to coarse shift the selected Corner in a vertical way (Follow this procedure in a similar way to adjust any desired corner position). (image 6-19)

Note: Apply this procedure to perform a keystone correction: this is used to align the image if the projector is mounted at a non standard projector angle. (image 6-20)
5. Use the subpixel adjustments to fine shift the selected corners.
6. Continue with the Coarse Side Bow adjustment or press **EXIT** to return to the *Guided Geometry Map* menu.

```

GEOMETRY DISTORTION

corner left top

col = 0
row = 0
pixels x = 0
y = 0
subpixels x = 0
y = 0

```

Menu 6-58

```

GEOMETRY DISTORTION

corner left top

col = 0
row = 0
pixels x = 0
y = 0
subpixels x = 0
y = 0

```

Menu 6-59



Image 6-18
Corner pixel x adjustment



Image 6-19
Corner pixel y adjustment

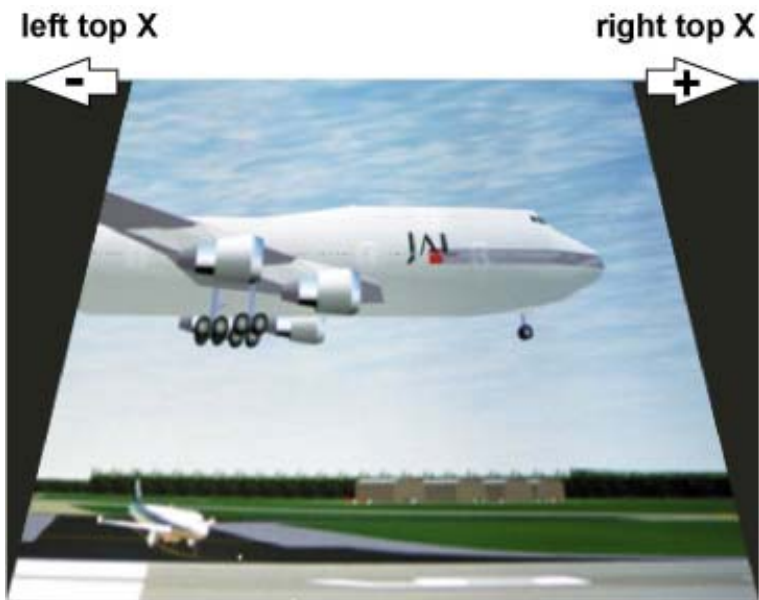


Image 6-20
Keystone correction

6.5.7.3.4 Side Bow selection

What can be done ?

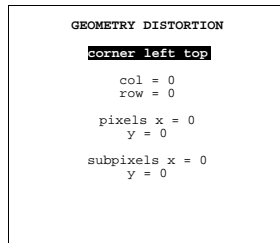
With the Coarse Side Bow selection it is possible to:

- apply a bow shaped pre-distortion on the projected image.
- perform a coarse linearity adjustment off the projected image.

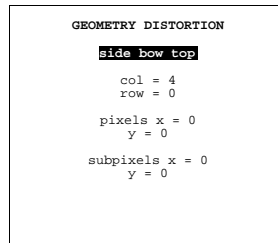
How to select the Side Bows ?

1. Push the cursor key ↑ or ↓ to highlight the Coarse selection. (menu 6-60)
2. Press **ENTER** to scroll through the available Coarse selections until *side bow* is displayed. (menu 6-61)
3. Push the cursor key ← or → to select the desired Side Bow.

The COL & ROW (Column and Rows) indicator will show the corresponding position of the selected Side Bow and an indication box will be displayed on the screen. (image 6-21)



Menu 6-60



Menu 6-61

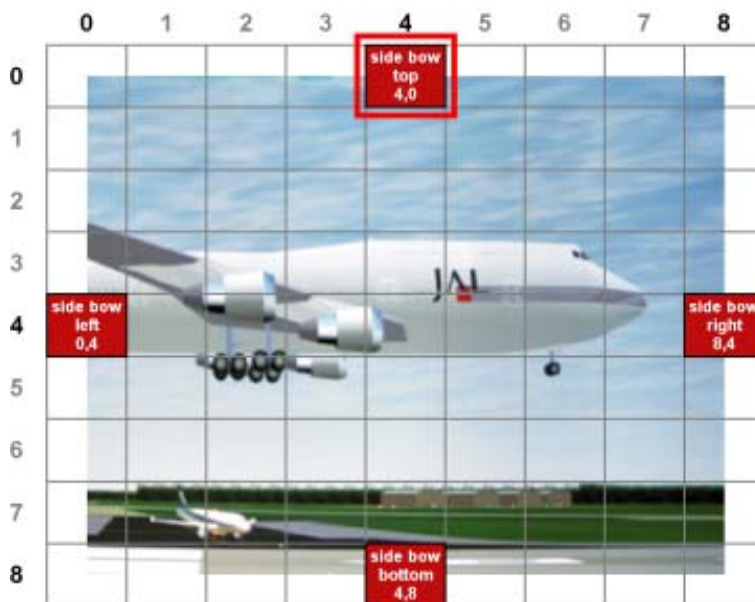


Image 6-21
Coarse Side Bow selections

6.5.7.3.5 Bow shaped pre-distortion set up

How to set up a bow shaped pre-distortion ?

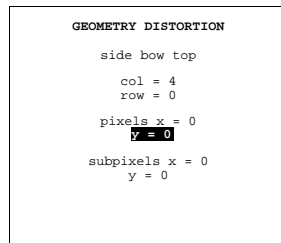
We assume *side bow top* is selected.

1. Push the cursor key \uparrow or \downarrow to select *pixel y = 0* in the *Geometry Distortion* menu. (menu 6-62)
2. Push the cursor key \leftarrow or \rightarrow to coarse shift the selected Side Bow in a vertical way.

This will result in a bow shaped pre-distorted image (Follow this procedure in a similar way to apply the desired bow shaped distortion). (image 6-22)

3. Use the subpixel adjustments to fine shift the selected side bow.

4. Continue with the Coarse Side Bow or Center adjustment or press **EXIT** to return to the *Guided Geometry Map* menu.



Menu 6-62

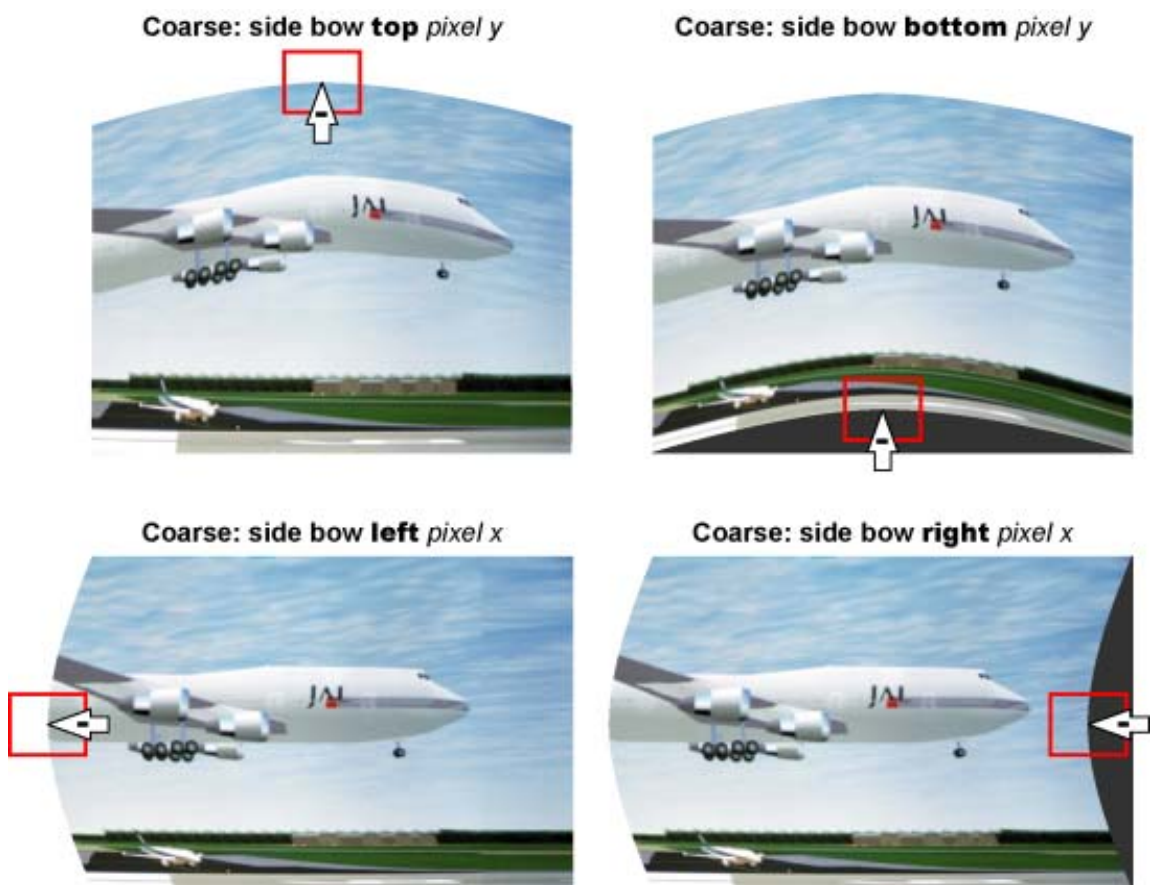


Image 6-22
Bow shaped pre-distortions

6.5.7.3.6 Coarse linearity adjustment using Side Bows



The Linearity adjustment is best done when a reference test pattern is projected on the screen.



By pressing the * key on the RCU an internal hatch pattern is projected instead of the image data.

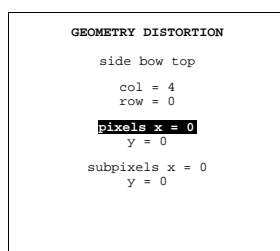
How to perform a coarse linearity adjustment by using the Side Bows?

We assume *side bow top* is selected.

1. Push the cursor key \uparrow or \downarrow to select *pixel x = 0* in the *Geometry Distortion* menu. (menu 6-63)
2. Push the cursor key \leftarrow or \rightarrow to coarse shift the selected Side Bow in a horizontal way.
3. Repeat step 1 to 2 for the Coarse *side bow bottom* selection.

This will shift the vertical center line, resulting in a coarse horizontal linearity adjustment (Follow this procedure in a similar way to shift the horizontal center line). (image 6-23)

4. Use the subpixel adjustments to fine shift the selected Side Bows.
5. Continue with the Coarse Center adjustment or press **EXIT** to return to the *Guided Geometry Map* menu.



Menu 6-63

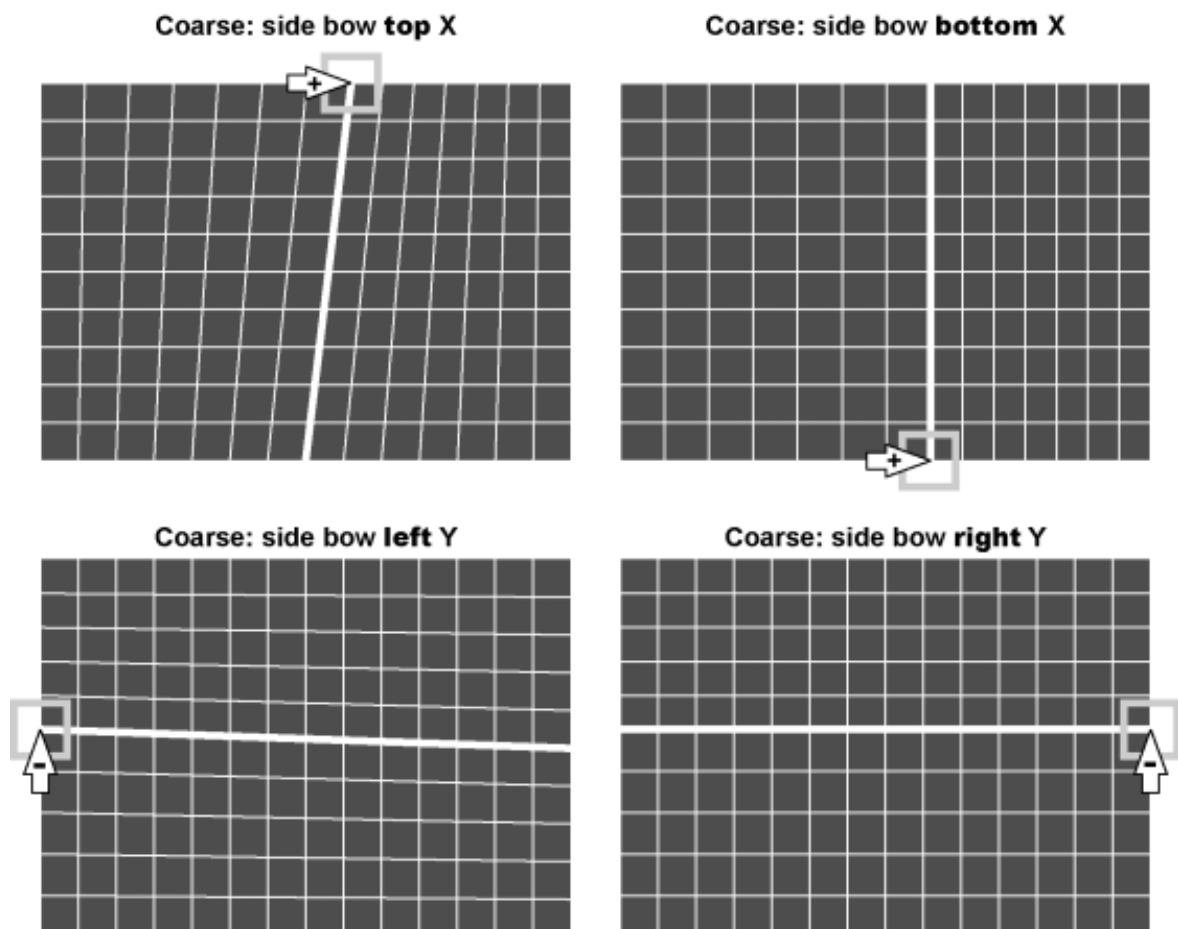


Image 6-23
Using side bows to perform a coarse linearity adjustment

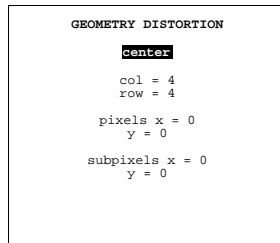
6.5.7.3.7 Center selection

What can be done ?

With the Coarse Center selection it is possible to perform a coarse bow correction on the projected image.

How to select the Center ?

1. Push the cursor key \uparrow or \downarrow to to highlight the Coarse selection.
2. Press **ENTER** until *center* is displayed. (menu 6-64)



Menu 6-64

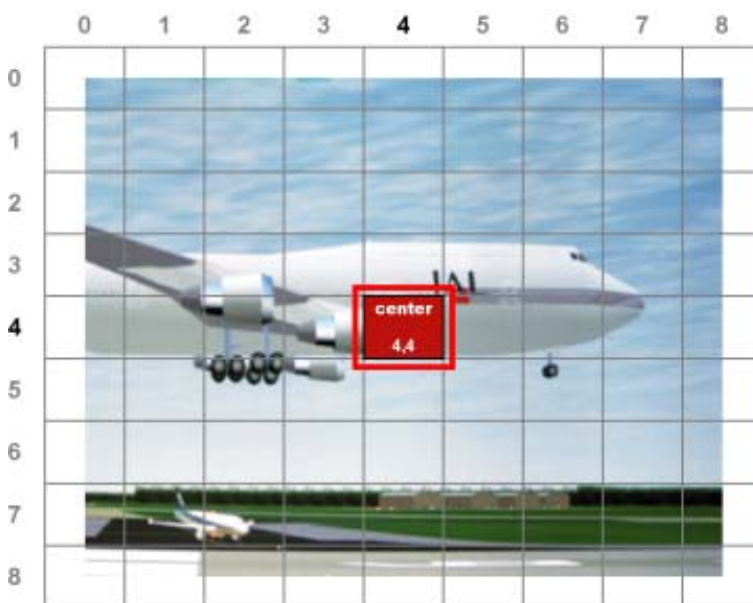


Image 6-24
Coarse Center selection

6.5.7.3.8 Center adjustment

How to adjust the Center ?

1. Push the cursor key \uparrow or \downarrow to select *pixel x = 0* in the *Geometry Distortion* menu. (menu 6-65)
2. Push the cursor key \leftarrow or \rightarrow to coarse shift the Center in a horizontal way. (image 6-25)
3. Push the cursor key \uparrow or \downarrow to select *pixel y = 0* in the *Geometry Distortion* menu. (menu 6-66)
4. Push the cursor key \leftarrow or \rightarrow to coarse shift the Center in a vertical way. (image 6-26)

5. Use the subpixel adjustments to fine shift the Center.
6. When the Coarse adjustment is finished press **EXIT** to return to the *Guided Geometry Map* menu.

```

GEOMETRY DISTORTION

center
col = 4
row = 4
pixels x = 0
y = 0
subpixels x = 0
y = 0

```

Menu 6-65

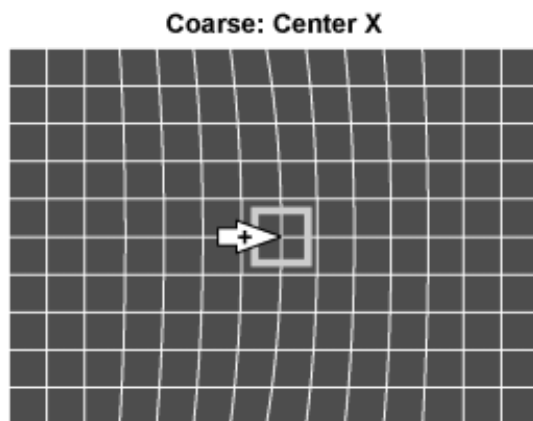
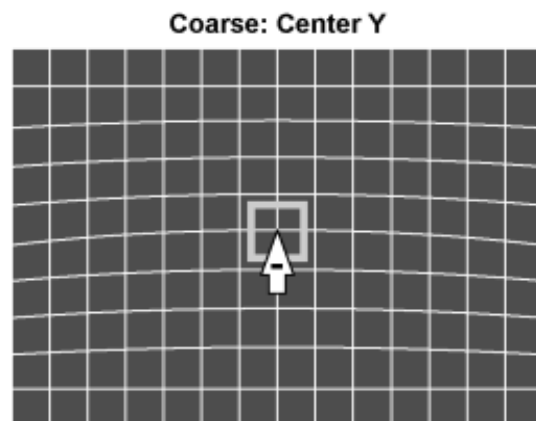
```

GEOMETRY DISTORTION

center
col = 4
row = 4
pixels x = 0
y = 0
subpixels x = 0
y = 0

```

Menu 6-66

Image 6-25
Center pixel x adjustmentImage 6-26
Center pixel y adjustment

6.5.7.4 Linearity adjustment

Overview

- Start up
- Horizontal or Vertical Linearity selection
- Horizontal Linearity adjustment
- Vertical Linearity adjustment

6.5.7.4.1 Start up

How to Start up the Linearity adjustment ?

1. Push the cursor key ↑ or ↓ to highlight *Linearity* in the *Guided Geometry Map* menu. (menu 6-67)
2. Press **ENTER** to select.

The *Linearity* menu will be displayed. (menu 6-68)

```

GUIDED GEOMETRY MAP

COARSE
LINEARITY
FINE
SHIFT
TRANSPORT DELAY
BLANKING/SOFT EDGE

RESET

Select with ↑ or ↓
then <ENTER>
<EXIT> to return

```

Menu 6-67

```

LINEARITY

horizontal
coarse 0
right 0
center 0

```

Menu 6-68

6.5.7.4.2 Horizontal or Vertical Linearity selection

What can be done with the Linearity adjustment ?

Within this Linearity adjustment mode it is possible to perform a coarse correction of the horizontal and vertical nonlinearity.



The Linearity adjustment is best done when a hatch pattern is projected on the screen.



By pressing the * key on the RCU an internal hatch pattern is projected instead of the image data.

How to select the Horizontal or Vertical Linearity ?

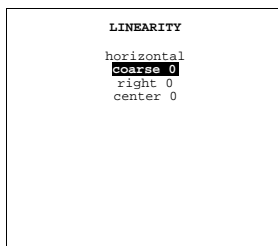
1. By default *horizontal* is selected.
2. Press **ENTER** to toggle between *horizontal* and *vertical*.

6.5.7.4.3 Horizontal Linearity adjustment

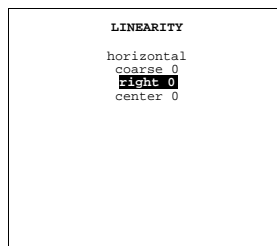
How to adjust the Horizontal Linearity ?

A correct Horizontal Linearity is achieved when the distances between the vertical lines of the hatch pattern are equal or almost equal from left to right.

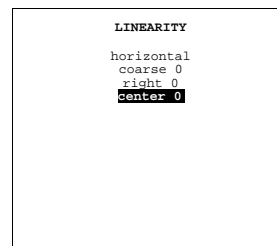
1. Is *Horizontal* Linearity selected ?
If yes, go to step 2
If no, Push the cursor key ↑ or ↓ to highlight *Vertical* and press **ENTER** to toggle to *Horizontal*.
2. Push the cursor key ↑ or ↓ to highlight *coarse*. (menu 6-69)
3. Push the cursor key ← or → to perform a coarse linearity correction of both sides of the image. (image 6-27)
4. Push the cursor key ↑ or ↓ to highlight *right*. (menu 6-70)
5. Push the cursor key ← or → to correct the linearity of the right side of the image. (image 6-28)
6. Push the cursor key ↑ or ↓ to highlight *center*. (menu 6-71)
7. Push the cursor key ← or → to correct the linearity of the center of the image. (image 6-29)
8. Continue with the vertical linearity adjustment.



Menu 6-69



Menu 6-70



Menu 6-71

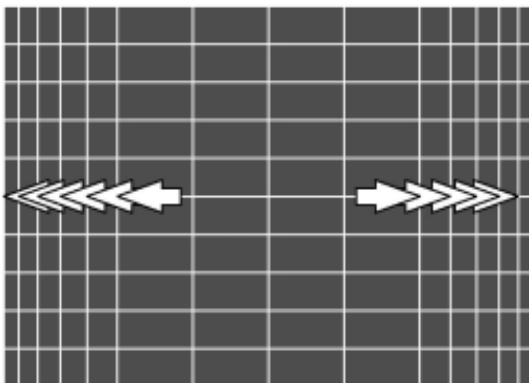
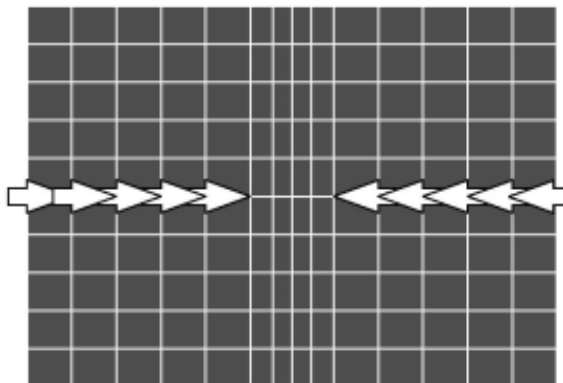
**Horizontal Linearity
Coarse +****Horizontal Linearity
Coarse -**

Image 6-27
Horizontal Linearity coarse adjustment

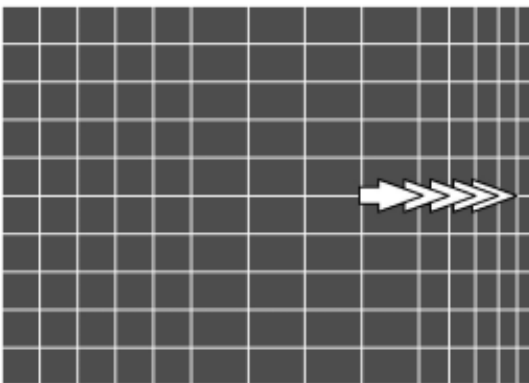
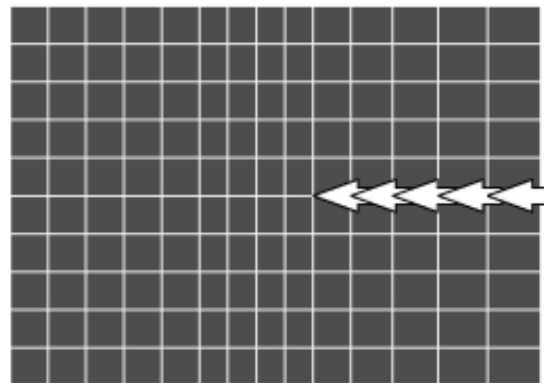
**Horizontal Linearity
Right +****Horizontal Linearity
Right -**

Image 6-28
Horizontal Linearity right adjustment

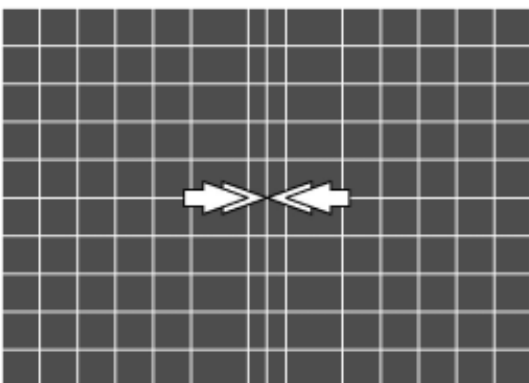
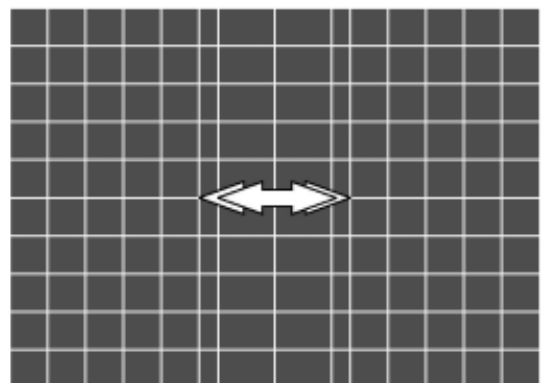
**Horizontal Linearity
Center +****Horizontal Linearity
Center -**

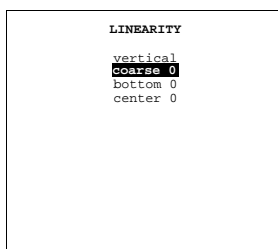
Image 6-29
Horizontal Linearity center adjustment

6.5.7.4.4 Vertical Linearity adjustment

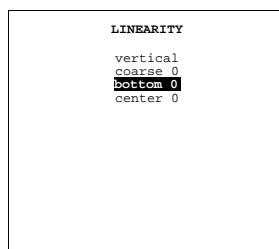
How to adjust the Vertical Linearity ?

A correct Vertical Linearity is achieved when the distances between the horizontal lines of the hatch pattern are equal or almost equal from top to bottom.

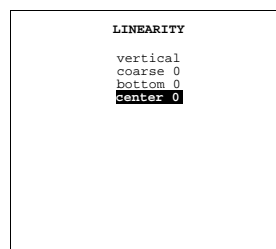
1. Is *Vertical* Linearity selected ?
If yes, go to step 2
If no, Push the cursor key \uparrow or \downarrow to highlight *Horizontal* and press **ENTER** to toggle to *Vertical*.
2. Push the cursor key \uparrow or \downarrow to highlight *coarse*. (menu 6-72)
3. Push the cursor key \leftarrow or \rightarrow to perform a coarse linearity correction of both sides of the image. (image 6-30)
4. Push the cursor key \uparrow or \downarrow to highlight *bottom*. (menu 6-73)
5. Push the cursor key \leftarrow or \rightarrow to correct the linearity of the bottom side of the image. (image 6-31)
6. Push the cursor key \uparrow or \downarrow to highlight *center*. (menu 6-74)
7. Push the cursor key \leftarrow or \rightarrow to correct the linearity of the center of the image. (image 6-32)
8. When finishing the Linearity adjustments, press **EXIT** to return to the *Guided Geometry Map* menu.



Menu 6-72



Menu 6-73



Menu 6-74

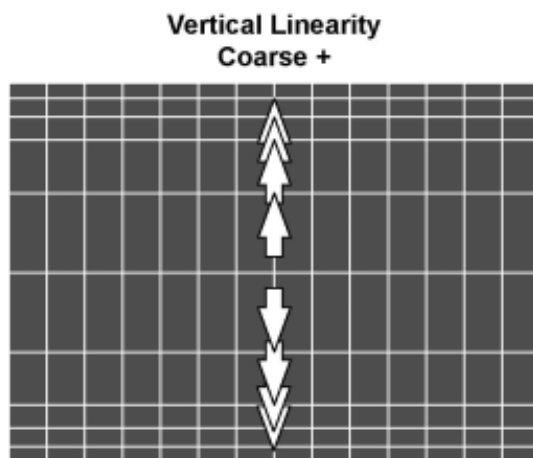
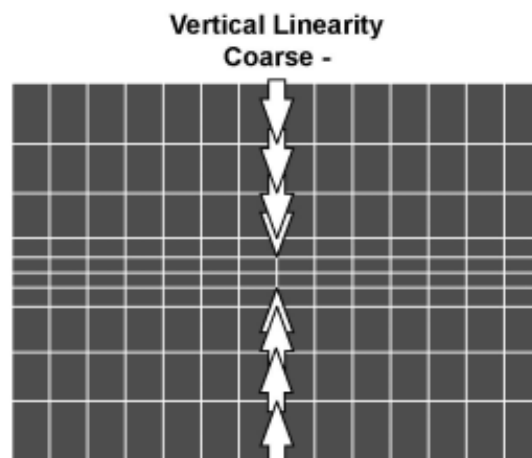


Image 6-30
Vertical Linearity coarse adjustment



**Vertical Linearity
Bottom +**

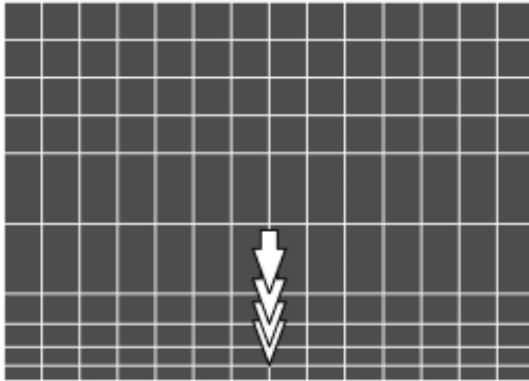
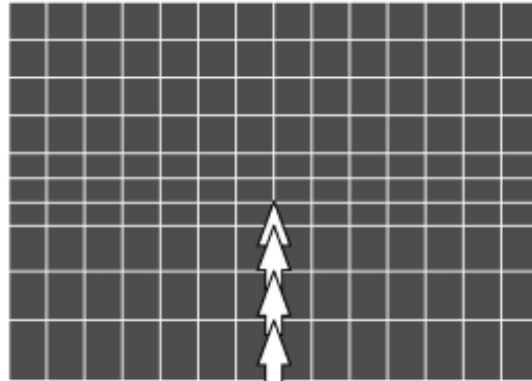


Image 6-31
Vertical Linearity bottom adjustment

**Vertical Linearity
Bottom -**



**Vertical Linearity
Center +**

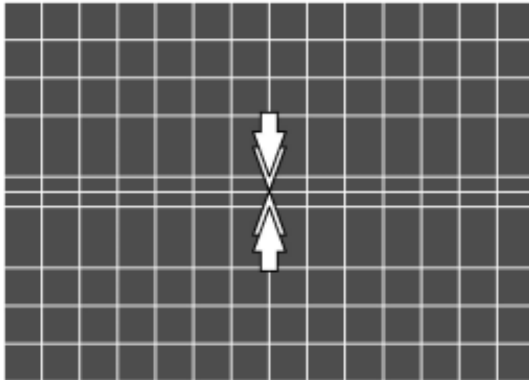
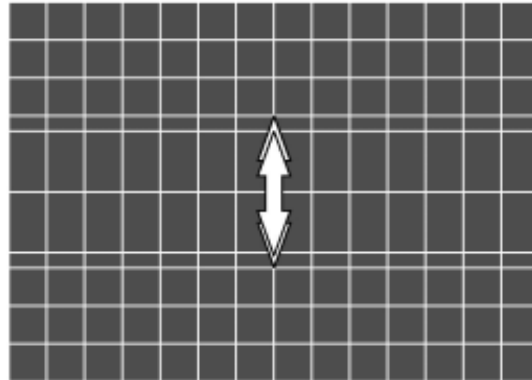


Image 6-32
Vertical Linearity center adjustment

**Vertical Linearity
Center -**



6.5.7.5 Fine

Overview

- Start up
- Horizontal or Vertical Linearity selection
- Fine Horizontal or Vertical Linearity adjustment
- Bow Linearity selection
- Bow Linearity adjustment
- Quadrant selection
- Quadrant adjustment
- Local selection
- Local adjustment

6.5.7.5.1 Start up

How to Start up the Fine adjustment ?

1. Push the cursor key ↑ or ↓ to highlight *Fine* in the *Edit* menu. (menu 6-75)
2. Press **ENTER** to select.

The *Geometry Distortion* menu will be displayed. (menu 6-76)

```

GUIDED GEOMETRY MAP
COARSE
LINEARITY
FINE
SHIFT
TRANSPORT DELAY
BLANKING/ SOFT EDGE
RESET

Select with ; or :
then <ENTER>
<EXIT> to return
    
```

Menu 6-75

```

GEOMETRY DISTORTION
hor lin left top
col = 2
row = 0
pixels x = 0
y = 0
subpixels x = 0
y = 0
    
```

Menu 6-76

6.5.7.5.2 Horizontal or Vertical Linearity selection

What can be done ?

Within this menu it is possible to fine tune the linearity of the projected image.



The Linearity adjustment is best done when a hatch pattern is projected on the screen.



By pressing the * key on the RCU an internal hatch pattern is projected instead of the image data.

How to select the Horizontal or Vertical Linearity ?

1. Push the cursor key ↑ or ↓ to highlight the *Fine* selection. (menu 6-77)
2. By default *hor lin* is already selected, if not, press **ENTER** to scroll through the available *Fine* selections until *hor lin* or *ver lin* is displayed.
3. Push the cursor key ← or → to select the desired horizontal or vertical linearity point.

The COL & ROW indicator will show the corresponding position of the selected grid point and an indication box will show the selected grid point on the screen. (image 6-33)

```

GEOMETRY DISTORTION
hor lin left top
col = 2
row = 0
pixels x = 0
y = 0
subpixels x = 0
y = 0
    
```

Menu 6-77

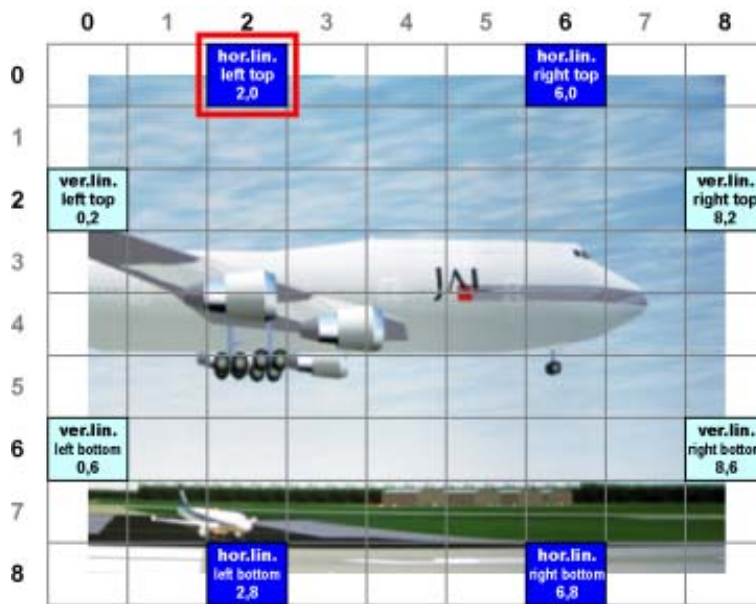


Image 6-33
Fine horizontal or vertical linearity selections

6.5.7.5.3 Fine Horizontal or Vertical Linearity adjustment

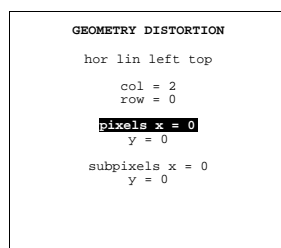
How to adjust the Fine Horizontal or Vertical Linearity ?

We assume *hor lin left top* is selected.

1. Push the cursor key \uparrow or \downarrow to highlight *pixel x = 0*. (menu 6-78)
2. Push the cursor key \leftarrow or \rightarrow to shift the selected grid point in a horizontal way.
3. Repeat step 1 to 2 for the Fine *hor lin left bottom* selection.

This will result in a fine horizontal linearity adjustment (Follow this procedure in a similar way to perform a fine vertical linearity adjustment). (image 6-34)

4. Use the subpixel adjustments to fine shift the selected grid point.
5. Continue with the Fine Bow Linearity adjustment or press **EXIT** to return to the *Guided Geometry Map*.



Menu 6-78

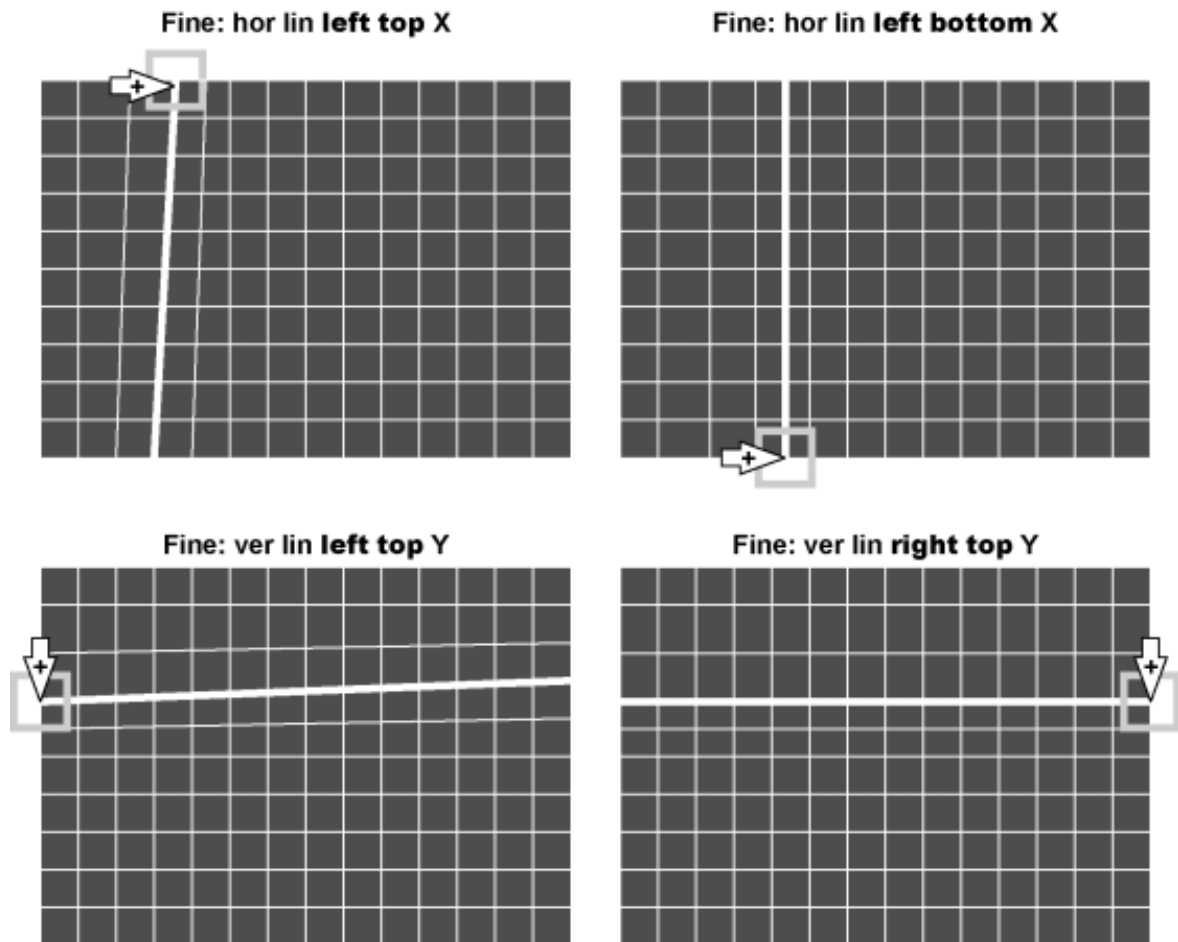


Image 6-34
Fine horizontal or vertical linearity adjustment

6.5.7.5.4 Bow Linearity selection

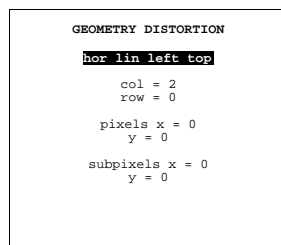
What can be done ?

Within this menu it is possible to perform a fine bow correction on the projected image.

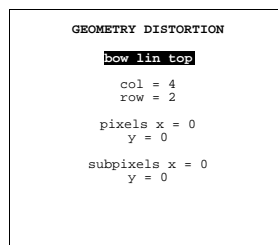
How to select the Bow Linearity ?

1. Push the cursor key \uparrow or \downarrow to highlight the Fine selection. (menu 6-79)
2. Press **ENTER** to scroll through the available Fine selections until *bow lin* is displayed. (menu 6-80)
3. Push the cursor key \leftarrow or \rightarrow to select the desired bow linearity point.

The COL & ROW indicator will show the corresponding position of the selected grid point and an indication box will show the selected grid point on the screen. (image 6-35)



Menu 6-79



Menu 6-80

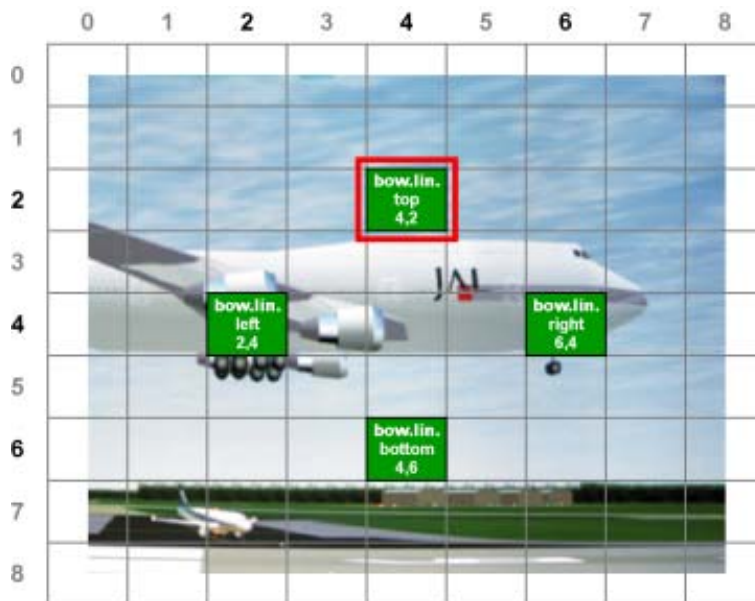


Image 6-35
Fine bow linearity selections

6.5.7.5.5 Bow Linearity adjustment

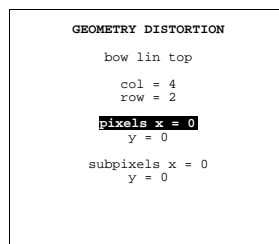
How to adjust the Bow Linearity ?

We assume *bow top* is selected.

1. Push the cursor key \uparrow or \downarrow to highlight *pixel y = 0*. (menu 6-81)
2. Push the cursor key \leftarrow or \rightarrow to shift the selected grid point in a vertical way.

This will result in a fine bow correction on the projected image (Follow this procedure in a similar way to apply a fine bow correction on any desired bow linearity selection). (image 6-36)

3. Use the subpixel adjustments to fine shift the selected grid point.
4. Continue with the Fine Quadrant adjustment or press **EXIT** to return to the *Guided Geometry Map*.



Menu 6-81

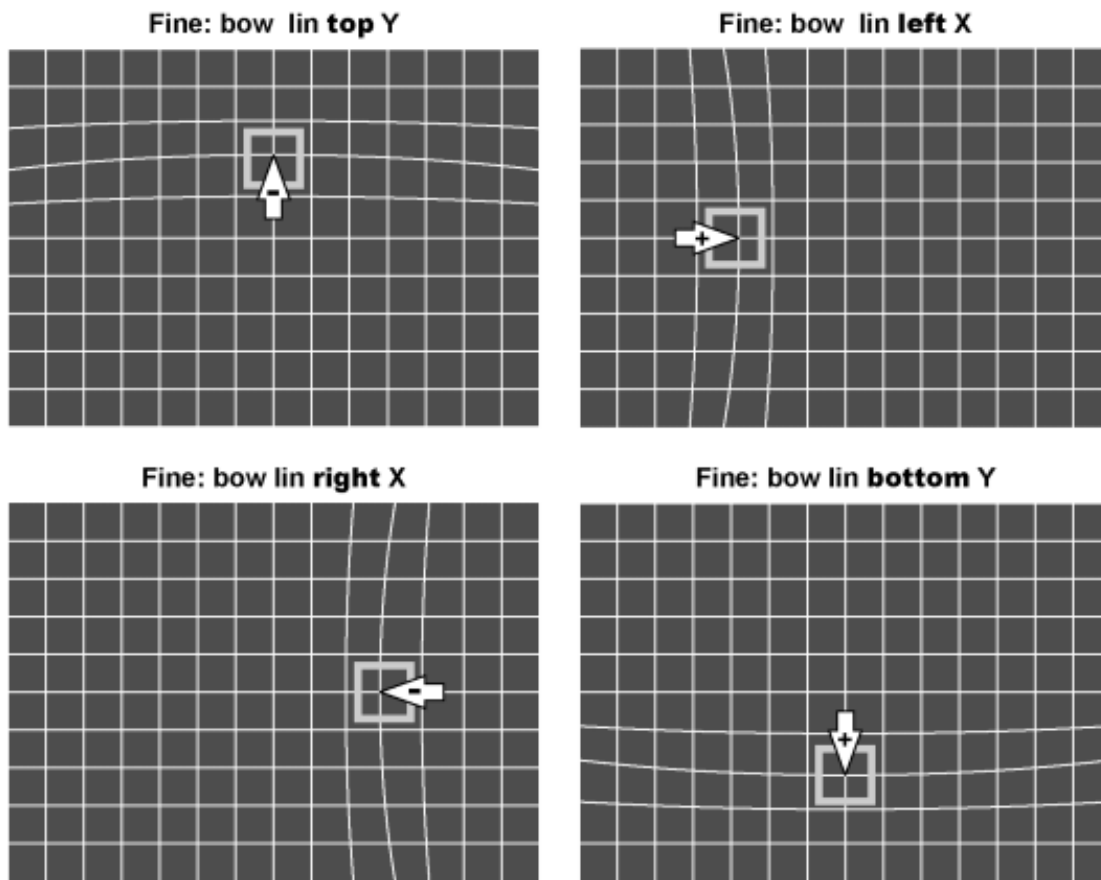


Image 6-36
Fine bow linearity adjustments

6.5.7.5.6 Quadrant selection

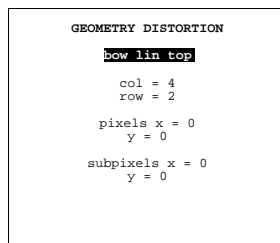
What can be done ?

Within this menu it is possible to perform a fine adjustment within a selected quadrant.

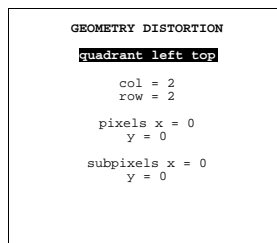
How to select the Quadrants ?

1. Push the cursor key ↑ or ↓ to highlight the Fine selection. (menu 6-82)
2. Press **ENTER** to scroll through the available Fine selections until *quadrant* is displayed. (menu 6-83)
3. Push the cursor key ← or → to select the desired quadrant point.

The COL & ROW indicator will show the corresponding position of the selected grid point and an indication box will show the selected grid point on the screen. (image 6-37)



Menu 6-82



Menu 6-83

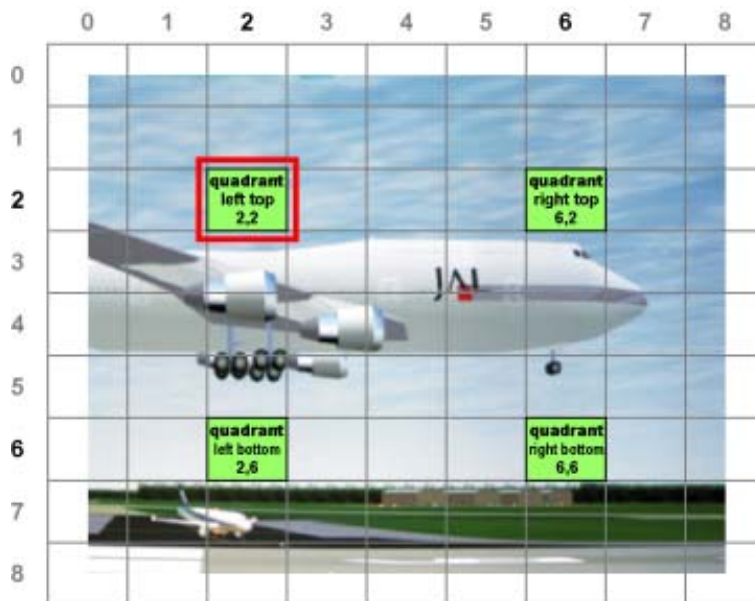


Image 6-37
Fine quadrant selections

6.5.7.5.7 Quadrant adjustment

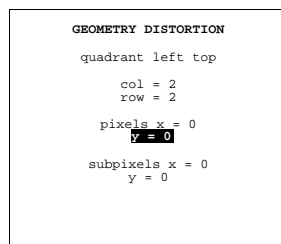
How to adjust Quadrants ?

We assume *quadrant top left* is selected.

1. Push the cursor key \uparrow or \downarrow to highlight *pixel Y = 0*. (menu 6-84)
2. Push the cursor key \leftarrow or \rightarrow to shift the selected grid point in a vertical way.

This will result in a fine adjustment within the selected quadrant (Follow this procedure in a similar way to apply a fine adjustment on any desired quadrant). (image 6-38)

3. Use the subpixel adjustments to fine shift the selected grid point.
4. Continue with the Fine Quadrant adjustment or press **EXIT** to return to the *Guided Geometry Map*.



Menu 6-84

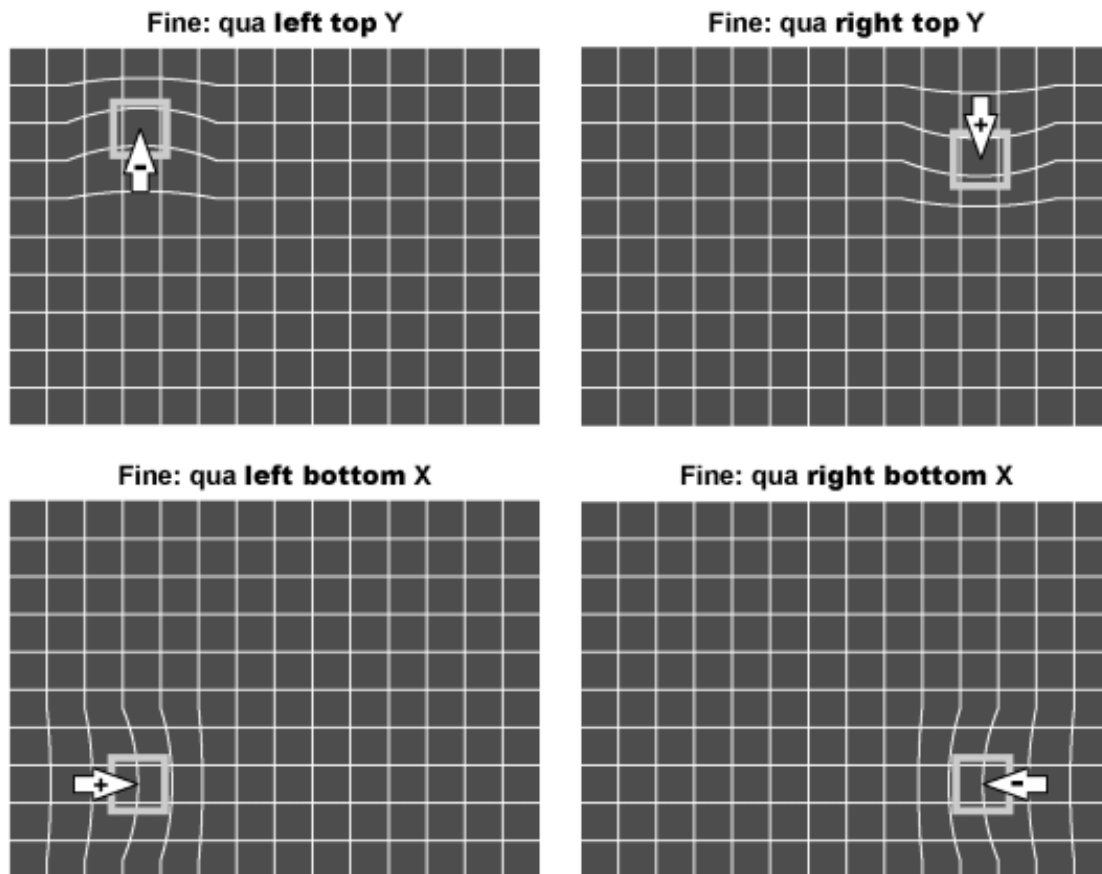


Image 6-38
Fine quadrant adjustments

6.5.7.5.8 Local selection

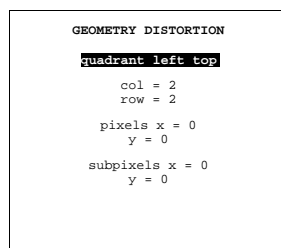
What can be done ?

Within this menu it is possible to smooth away bumps and irregularities within the selected local zone of the projected image.

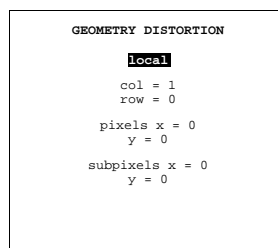
How to select the Local grid points ?

1. Push the cursor key \uparrow or \downarrow to highlight the Fine selection. (menu 6-85)
2. Press **ENTER** to scroll through the available Fine selections until *local* is displayed.
See menu 6-86.
3. Push the cursor key \uparrow or \downarrow to select col. (menu 6-87)
4. Push the cursor key \leftarrow or \rightarrow to scroll through all available local grid points within this row.

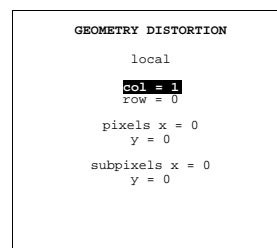
An indication box will show the selected local grid point on the screen (Follow this procedure in a similar way to select any desired local zone). (image 6-39)



Menu 6-85



Menu 6-86



Menu 6-87

	0	1	2	3	4	5	6	7	8
0		local 1,0		local 3,0		local 5,0		local 7,0	
1	local 0,1	local 1,1	local 2,1	local 3,1	local 4,1	local 5,1	local 6,1	local 7,1	local 8,1
2		local 1,2		local 3,2		local 5,2		local 7,2	
3	local 0,3	local 1,3	local 2,3	local 3,3	local 4,3	local 5,3	local 6,3	local 7,3	local 8,3
4		local 1,4		local 3,4		local 5,4		local 7,4	
5	local 0,5	local 1,5	local 2,5	local 3,5	local 4,5	local 5,5	local 6,5	local 7,5	local 8,5
6		local 1,6		local 3,6		local 5,6		local 7,6	
7	local 0,7	local 1,7	local 2,7	local 3,7	local 4,7	local 5,7	local 6,7	local 7,7	local 8,7
8		local 1,8		local 3,8		local 5,8		local 7,8	

Image 6-39
Fine local grid point selections

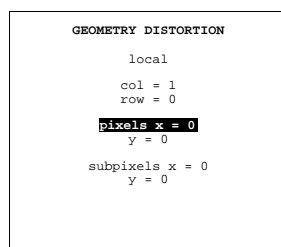
6.5.7.5.9 Local adjustment

How to adjust the Local grid points ?

1. Push the cursor key \uparrow or \downarrow to select *pixel x = 0* in the *Geometry Distortion* menu. (menu 6-88)
2. Push the cursor key \leftarrow or \rightarrow to coarse shift the selected grid point in a horizontal way.

This will result in a fine adjustment within the selected local zone (Follow this procedure in a similar way to apply a fine adjustment on any desired local zone). (image 6-40)

3. Use the subpixel adjustments to fine shift the selected grid point.
4. When finishing the Local grid point adjustment press **EXIT** to return to the *Guided Geometry Map*.
5. Press **EXIT** to return to the *Edit* menu.



Menu 6-88

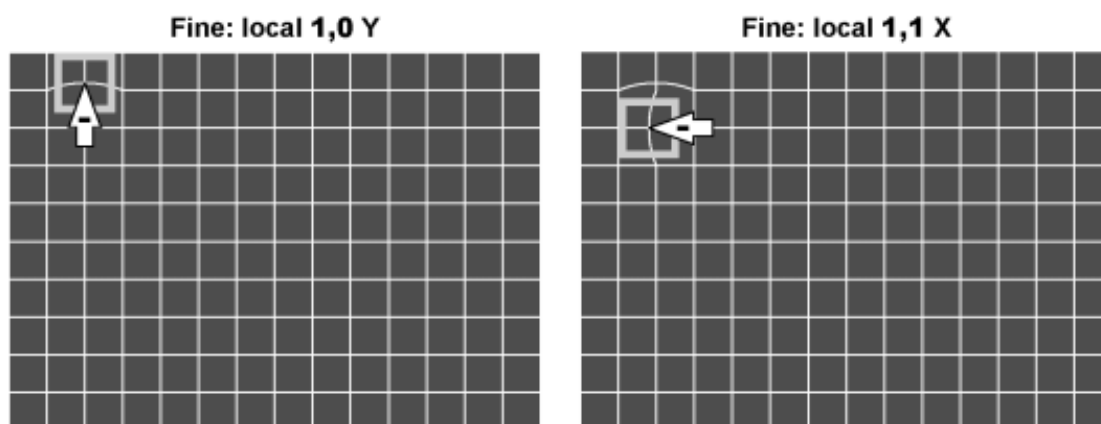


Image 6-40
Fine local adjustments

6.5.7.6 Shift

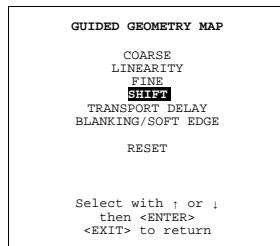
What can be done with the Shift adjustment ?

With Shift adjustment it is possible to shift the whole image.

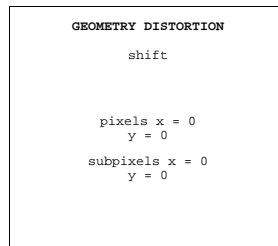
How to Start up Shift adjustment ?

1. Push the cursor key \uparrow or \downarrow to highlight *Shift* in the *Edit* menu. (menu 6-89)
2. Press **ENTER** to select.

The *Geometry Distortion* menu will be displayed. (menu 6-90)



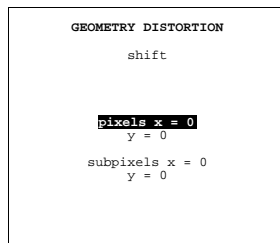
Menu 6-89



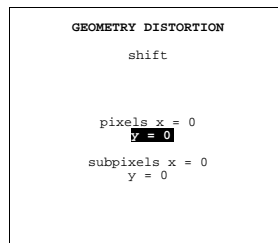
Menu 6-90

How to use the Shift adjustment ?

1. Push the cursor key \uparrow or \downarrow to select *Pixel x = 0* in the *Geometry Distortion* menu. (menu 6-91)
2. Push the cursor key \leftarrow or \rightarrow to shift the whole image in a horizontal way.
3. Push the cursor key \uparrow or \downarrow to *Pixel y = 0* in the *Geometry Distortion* menu. (menu 6-92)
4. Push the cursor key \leftarrow or \rightarrow to shift the whole image in a vertical way.
5. Use the subpixel selections to fine shift the whole image.
6. Press **EXIT** to return to the *Guided Geometry Map* menu.



Menu 6-91



Menu 6-92

6.5.7.7 Transport Delay

What can be done with the Transport Delay

The first image data the projector receives from the Image Generator is the start of the first active line. However when a top side bow pre-distortion is used, the first image data the projector needs is the image information that is halfway that first active line, to gather all this information before projecting it on the screen, an adjustable Transport Delay is applied on the received image data.

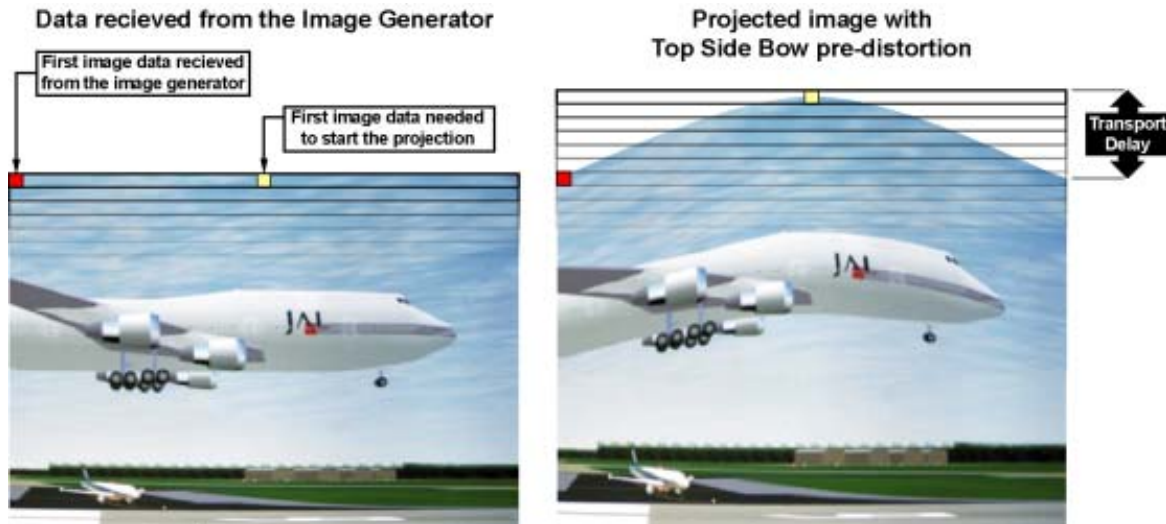
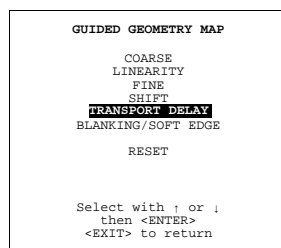


Image 6-41
Transport Delay basic principle

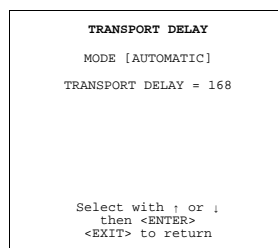
How to Start up the Transport Delay ?

1. Push the cursor key ↑ or ↓ to highlight *Transport Delay* in the *Edit* menu. (menu 6-93)
2. Press **ENTER** to select.

The *Transport Delay* menu will be displayed. (menu 6-94)



Menu 6-93



Menu 6-94



In a set up with 1 projector skip the following adjustment procedure and always leave the Transport Delay in the default automatic mode.

How to adjust the Transport Delay ?

The following procedure is described for a system with 3 projectors, apply the same guidelines for a multi-projector set up.

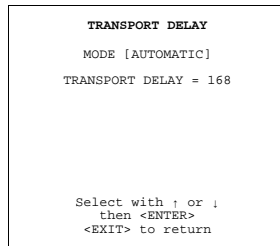
1. Make sure the 3 projectors are set to the default [AUTOMATIC] Transport Delay mode. (menu 6-95)

Each projector will automatically correct the Transport Delay to a certain value, e.g.:

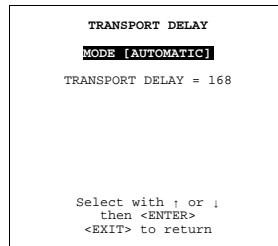
Projector #	Automatic Transport Delay
Projector 1	200
Projector 2	250
Projector 3	190

2. Leave the projector with the maximum value on [AUTOMATIC], in this case projector 2 with an Automatic Transport Delay of 250.
3. On Projector 1, push the cursor key to highlight *Mode* in the *Transport Delay* menu. (menu 6-96)
4. Press **ENTER** to toggle from [AUTOMATIC] to [MANUAL]. (menu 6-97)
5. Push the cursor key ↑ or ↓ to highlight *Transport Delay*. (menu 6-98)
6. Push the → cursor key to set the Transport Delay to the maximum value in the set up, in this case set the Transport Delay manually to 250.

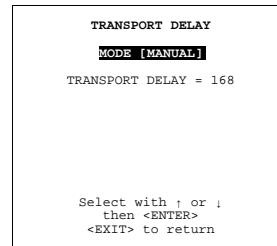
- Repeat step 3 to 6 for projector 3.
- Press **EXIT** to return to the *Guided Geometry Map* menu.



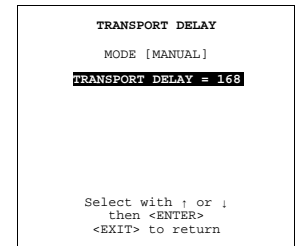
Menu 6-95



Menu 6-96



Menu 6-97



Menu 6-98

6.5.7.8 Blanking

Overview

- Blanking Start up
- Blanking Active On
- Blanking Shape Start up
- Blanking Shape selections
- Blanking adjustment

6.5.7.8.1 Blanking Start up

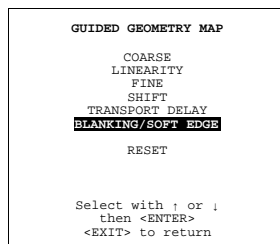
What can be done with Blanking ?

Blanking adjustments affect only the edges of the projected image and are used to frame the projected image on the screen and to hide unwanted image information (or noise).

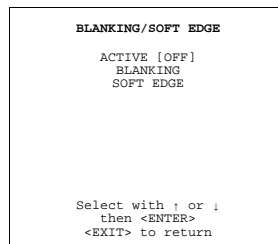
How to Start up Blanking ?

- Push the cursor key \uparrow or \downarrow to highlight *Blanking/Soft Edge* within the *Guided Geometry map* menu. (menu 6-99)
- Press **ENTER** to select.

The *Blanking/Soft Edge* menu will be displayed. (menu 6-100)



Menu 6-99



Menu 6-100

6.5.7.8.2 Blanking Active On

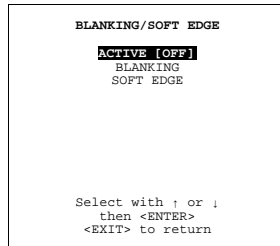
How to switch Blanking Active On ?

1. Push the cursor key ↑ or ↓ to highlight *Active* in the *Blanking/Soft Edge* menu. (menu 6-101)
2. Press **ENTER** to switch *Active* [OFF] to [ON].

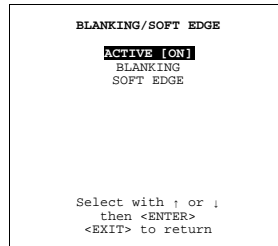
See menu 6-102.

In the default setting *Active* is set to [OFF].

[OFF]	Blanking is disabled.
[ON]	Blanking is enabled.



Menu 6-101



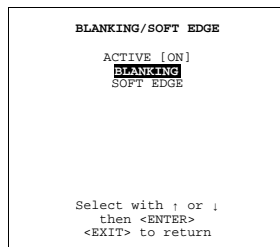
Menu 6-102

6.5.7.8.3 Blanking Shape Start up

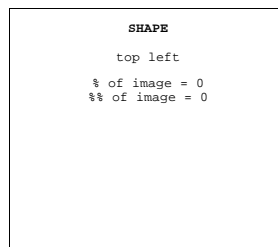
How to Start Up the Blanking Shape menu ?

1. Push the cursor key ↑ or ↓ to highlight *Blanking* in the *Blanking/Soft Edge* menu. (menu 6-103)
2. Press **ENTER** to select.

The *Shape* menu will be displayed. (menu 6-104)



Menu 6-103

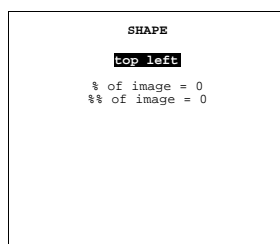


Menu 6-104

6.5.7.8.4 Blanking Shape selections

How to use the Blanking Shape selection ?

1. Push the cursor key ↑ or ↓ to highlight the first item in the *Shape* menu. (menu 6-105)
2. Press **ENTER** to scroll through the available coarse shape selections: top, bottom, left and right. (image 6-42)
3. Push the cursor key ← or → to scroll through the available fine shape selections. image 6-42



Menu 6-105

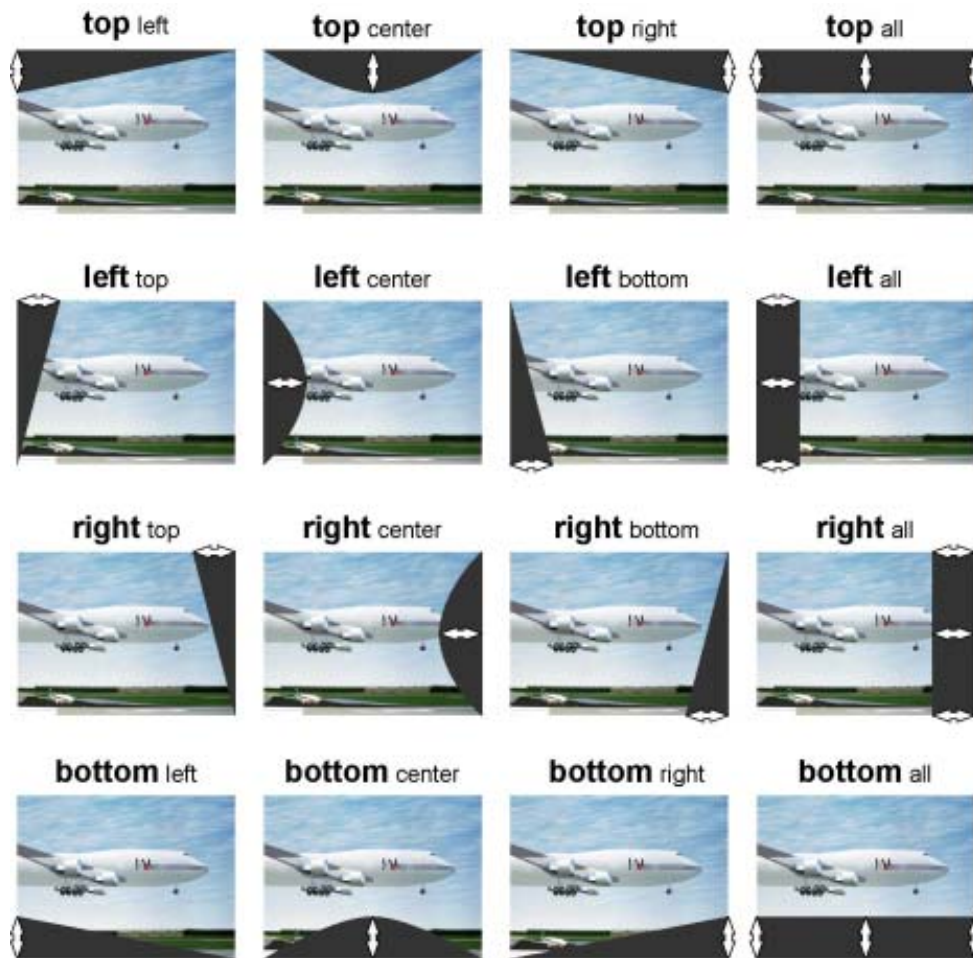


Image 6-42
Shape selections

6.5.7.8.5 Blanking adjustment

What is % of image and %% of image adjustment ?

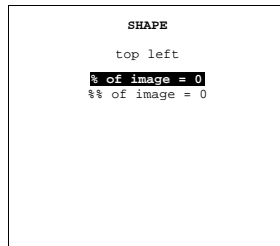
% of image	Coarse adjustment, this will shift the blending zone in steps of 1/100 of the total image shape.
%% of image	Fine adjustment, this will shift the blending zone in steps of 1/10000 of the total image shape.

How to adjust the Blanking Shape ?

We assume *top left* is selected.

1. Push the cursor key ↑ or ↓ to select % of image. (menu 6-106)
2. Push the cursor key ← or → to black out the left top side of the image (Follow this procedure in a similar way to apply a desired blanking adjustment) image 6-42.
3. Use the %% of image adjustments to fine shift the selected grid point.
4. When finished press **EXIT** to return to the *Blanking/Soft Edge* menu.

5. Press **EXIT** to return to the *Guided Geometry Map* menu.
6. Press **EXIT** to return to the *Edit* menu.



Menu 6-106

6.5.7.9 Electronic Soft Edge (Optional)



Whenever **Soft Edge** is mentioned in this chapter this always refer to **Electronic Soft Edge**.



The **Electronic Soft Edge** is only available as an option.

Overview

- Introduction
- Preparations
- Soft Edge Start up
- Soft Edge Active On
- Soft Edge Shape Start up
- Soft Edge Shape selections
- Basic Soft Edge Shape Set up
- Soft Edge Width Start up
- Soft Edge Width selections
- Basic Soft Edge Width Set up

6.5.7.9.1 Introduction

When available ?

The **Electronic Soft Edge** is only available as an option, some menu items will be grayed out when this option is not installed, the shape menu can always be used to blank out unwanted image information.

Why Soft Edge ?

When working in a multichannel setup the WARP 6™ and its extensive Soft Edge possibilities enable an image blending that gives the appearance of a single view, thus achieving realistic immersion for the majority of simulation and virtual reality applications.

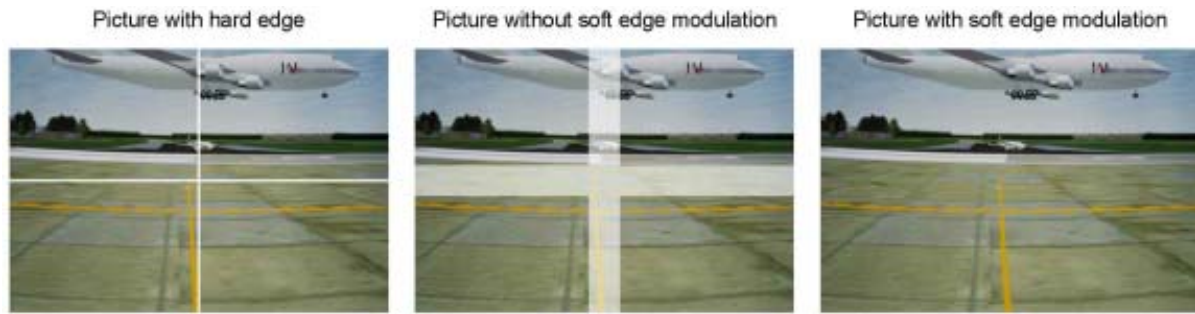


Image 6-43
WhySoft Edge ?

What is the Basic Principal of Soft Edge ?

The principle of edge blending is achieved by linear modulation of the light output in the overlap zone so that the light output in that zone equals the light output of the rest of the image.

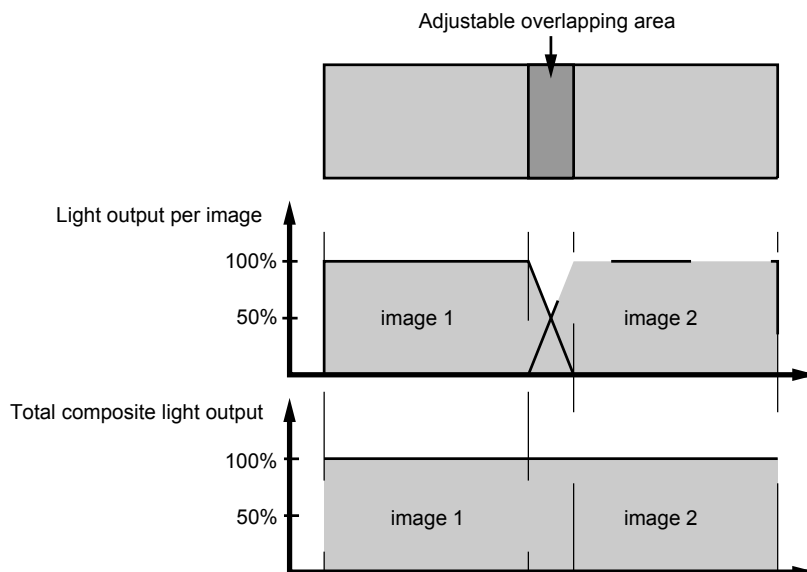


Image 6-44
Soft Edge Basic Principle

6.5.7.9.2 Preparations

Soft Edge Preparations

To ensure proper soft edge adjustment, be sure that the following adjustments are done perfectly on all projectors:

- Convergence (Electronic Convergence).
- Geometry
- Color Matching (Color Temperature, Input Balance, Gamma)



When projecting on a cylindrical screen, the adjustments mentioned above can be done by using the projector adjustments in combination with Polaris.

Polaris is a Test Pattern Generator software that can generate a user-defined test pattern that is used to align projection systems. It also has the ability to generate predefined patterns for standardized projection systems. The software is developed to run on IRIX (Order numbers for Polaris: R9898300 for a 6 months license, R9893301 for a full license).

6.5.7.9.3 Soft Edge Start up

How to Start up Soft Edge ?

1. Push the cursor key ↑ or ↓ to highlight *Blanking/Soft Edge* menu. (menu 6-107)
2. Press **ENTER** to select.

The *Blanking/Soft Edge* menu will be displayed. (menu 6-108)

```

GUIDED GEOMETRY MAP
  COARSE
  LINEARITY
  FINE
  SHIFT
  TRANSPORT DELAY
  BLANKING/SOFT EDGE
  RESET

Select with ; or |
then <ENTER>
<EXIT> to return

```

Menu 6-107

```

BLANKING/SOFT EDGE
  ACTIVE [OFF]
  BLANKING
  SOFT EDGE

Select with ; or |
then <ENTER>
<EXIT> to return

```

Menu 6-108

6.5.7.9.4 Soft Edge Active On

How to switch Soft Edge Active On ?

1. Push the cursor key ↑ or ↓ to highlight *Active* in the *Blanking/Soft Edge* menu. (menu 6-109)
2. Press **ENTER** to switch Soft Edge *Active* [OFF] to [ON]. (menu 6-110)

In the default setting Active is set to [OFF].

[OFF]	Soft Edge is disabled
[ON]	Soft Edge is enabled

```

BLANKING/SOFT EDGE
  ACTIVE [OFF]
  BLANKING
  SOFT EDGE

Select with ; or |
then <ENTER>
<EXIT> to return

```

Menu 6-109

```

BLANKING/SOFT EDGE
  ACTIVE [ON]
  BLANKING
  SOFT EDGE

Select with ; or |
then <ENTER>
<EXIT> to return

```

Menu 6-110

6.5.7.9.5 Soft Edge Shape Start up

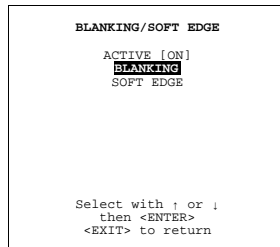
What can be done with the Soft Edge Shape menu ?

Before creating a soft edge, an overlap zone is created, the shape of this overlap zone is fully adjustable, within this menu the shape of the blending zone is aligned with the shape of the overlap zone.

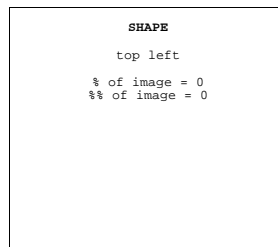
How to Start Up the Soft Edge Shape menu ?

1. Push the cursor key ↑ or ↓ to highlight *Shape* in the *Blanking/Soft Edge* menu. (menu 6-111)
2. Press **ENTER** to select.

The *Shape* menu will be displayed. (menu 6-112)



Menu 6-111

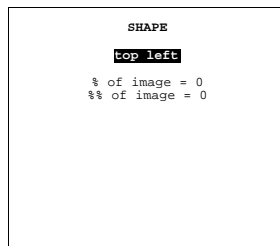


Menu 6-112

6.5.7.9.6 Soft Edge Shape selections

How the use the Soft Edge Shape selection ?

1. Push the cursor key ↑ or ↓ to highlight the first item in the *Shape* menu. (menu 6-113)
2. Press **ENTER** to scroll through the available coarse shape selections: top, bottom, left and right. (image 6-45)
3. Push the cursor key ← or → to scroll through the available fine shape selections. image 6-45



Menu 6-113

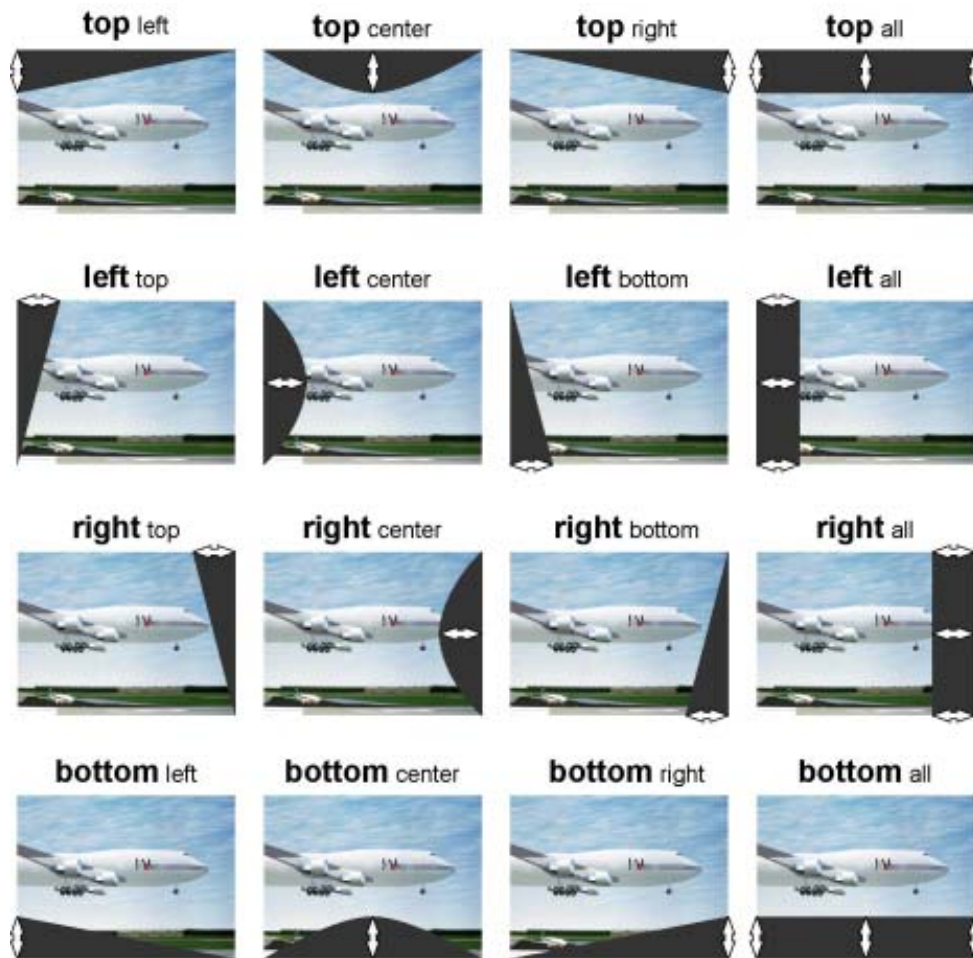


Image 6-45
Shape selections

6.5.7.9.7 Basic Soft Edge Shape Set up



The following procedures will adjust the Shape of a basic Electronic Soft Edge set up with 2 projectors and a 12.5 % overlap zone, apply the same procedures for every Electronic Soft Edge you want to create in a multi-projector system.

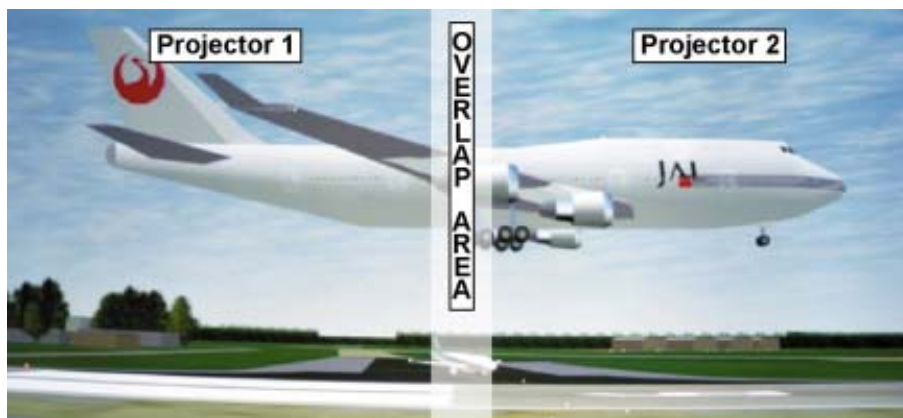


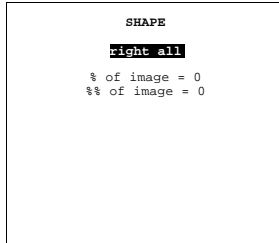
Image 6-46
Basic Electronic Soft Edge set up



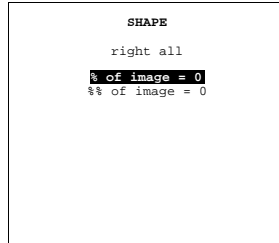
Be sure the Soft Edge Active mode is set to [ON] for both projectors.

Setting up the Shape for Projector 1

1. Use the combination of **ENTER** and the cursor key ← or → to select *right all*. (menu 6-114)
2. Push the cursor key ↑ or ↓ to select % of image. (menu 6-115)
3. Push the cursor key ← or → to coincide the right side of the image of Projector 1 with the center of the overlap area. (image 6-47)
4. Use the subpixel selections for fine adjustments.



Menu 6-114



Menu 6-115

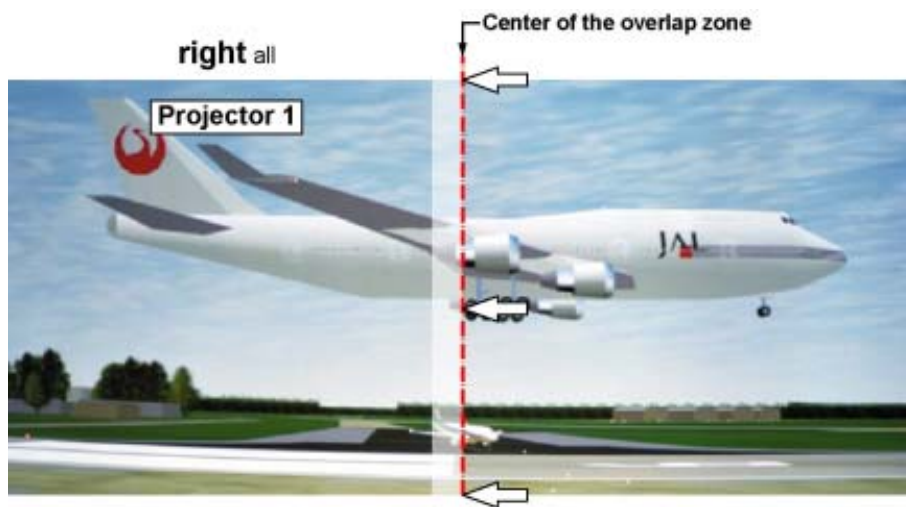
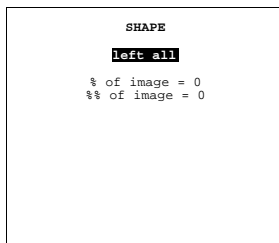


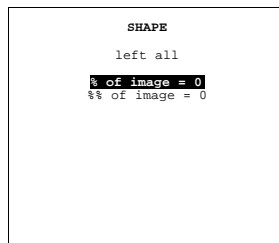
Image 6-47
Basic Shape set up for Projector 1

Setting up the Shape for Projector 2

1. Use the combination of **ENTER** and the cursor key ← or → to select *left all*. (menu 6-116)
2. Push the cursor key ↑ or ↓ to select % of image. (menu 6-117)
3. Push the cursor key ← or → to coincide the left side of the image of Projector 2 with the center of the overlap area. (image 6-48)
4. Use the subpixel selections for fine adjustments.



Menu 6-116



Menu 6-117

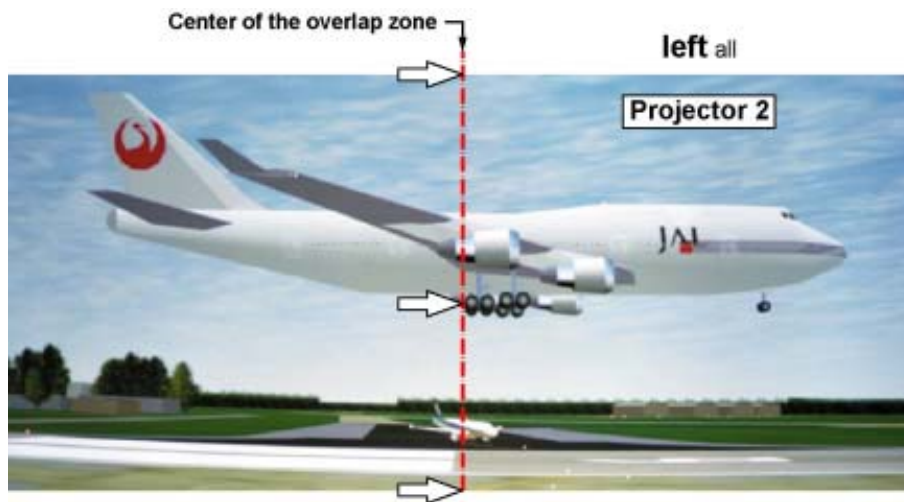


Image 6-48
Basic Shape set up for Projector 2

6.5.7.9.8 Soft Edge Width Start up



When Soft Edge is not installed on the projector or when the Soft Edge *Active* mode is set to [OFF] this menu item will be grayed out.

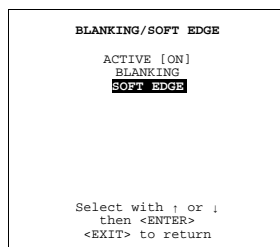
What can be done with the Soft Edge Width menu ?

Within this menu the width of the blending zone is set up.

How to Start up the Soft Edge Width menu ?

1. Push the cursor key \uparrow or \downarrow to highlight *Soft Edge*. (menu 6-118)
2. Press **ENTER** to select.

The *Soft Edge Width* barscale, displaying the width in % (Range from 00.0 to 25.5 %), will be displayed. (image 6-49)



Menu 6-118

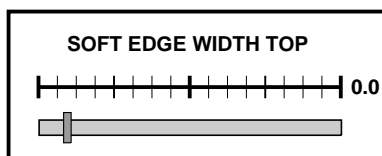


Image 6-49
The Soft Edge Width barscale

6.5.7.9.9 Soft Edge Width selections

How to use the Soft Edge Width selection ?

1. Press **ENTER** to scroll through all available Soft Edge Width selections: top, bottom, left and right. (image 6-50)

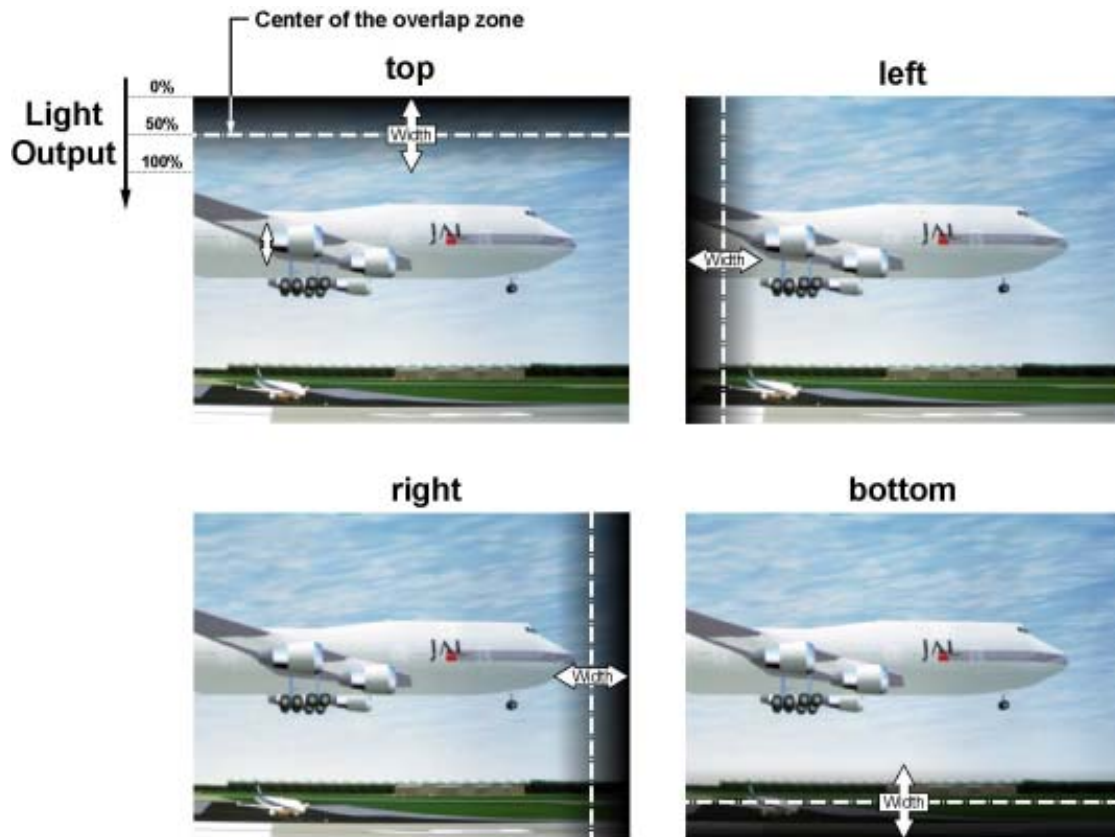


Image 6-50
Soft Edge Width selections

6.5.7.9.10 Basic Soft Edge Width Set up

Setting up the Width for Projector 1 ?

1. Press **ENTER** until *Right* is selected. (image 6-51)
2. Push the cursor key ← or → to adjust the *right width* until it matches or exceeds the width of the overlap zone. (image 6-52)
3. Press **EXIT** to return to the *Blanking/Soft Edge* menu.
4. Press **EXIT** to return to the *Guided Geometry Map* menu.
5. Press **EXIT** to return to the *Edit* menu.

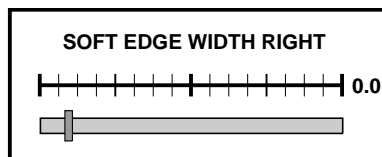


Image 6-51

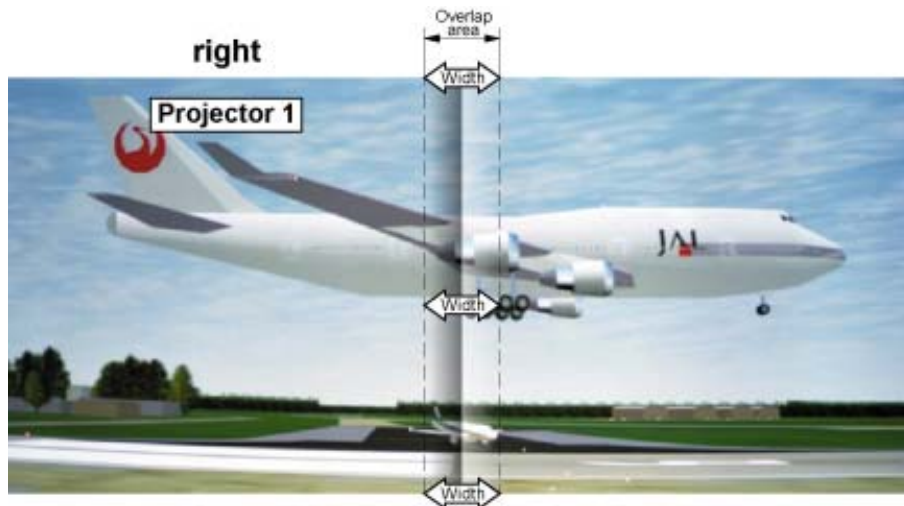


Image 6-52
Basic Width set up for Projector 1

Setting up the Width for Projector 2 ?

1. Press **ENTER** until *Left* is selected. (image 6-53)
2. Push the cursor key ← or → to adjust the *left width* until it matches the right width of projector 1. (image 6-54)
3. Press **EXIT** to return to the *Blanking/Soft Edge* menu.
4. Press **EXIT** to return to the *Guided Geometry Map* menu.
5. Press **EXIT** to return to the *Edit* menu.

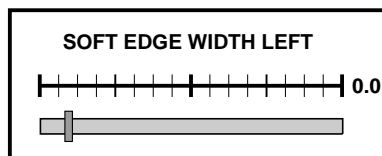


Image 6-53

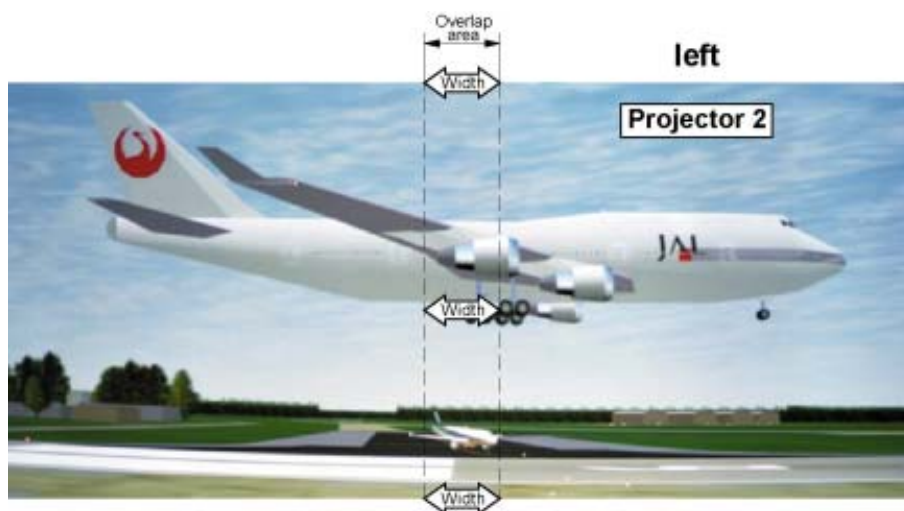


Image 6-54
Basic Width set up for Projector 2

6.5.7.10 Reset

Overview

- Start up
- Coarse Reset
- Linearity Reset
- Reset Fine
- Reset Blanking/Soft Edge
- Reset All

What can be done with Reset ?

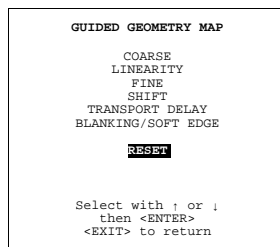
With the Reset menu item, a selection, or all Geometry and Soft Edge adjustment values, can be reset to their default values.

6.5.7.10.1 Start up

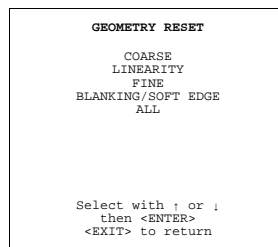
How to Start up Reset ?

1. Push the cursor key ↑ or ↓ to highlight *Reset* in the *Edit* menu. (menu 6-119)
2. Press **ENTER** to select.

The *Geometry Reset* menu will be displayed. (menu 6-120)



Menu 6-119



Menu 6-120

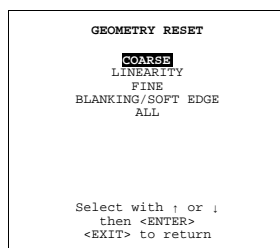
6.5.7.10.2 Coarse Reset

How to reset the Coarse adjustments ?

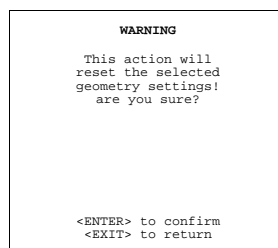
1. Push the cursor key ↑ or ↓ to highlight *Coarse* within the *Geometry Reset* menu. (menu 6-121)
2. Press **ENTER** to select.

A warning will be displayed . (menu 6-122)

3. Press **ENTER** to reset the Coarse adjustments
Or,
Press **EXIT** to return to the Geometry Reset menu.



Menu 6-121

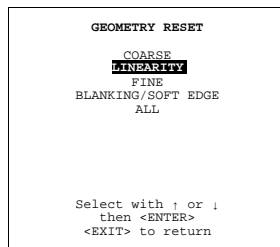


Menu 6-122

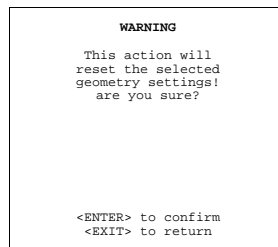
6.5.7.10.3 Linearity Reset

How to reset the Linearity adjustments ?

1. Push the cursor key ↑ or ↓ to highlight *Linearity* within the *Geometry Reset* menu. (menu 6-123)
2. Press **ENTER** to select.
A warning will be displayed . (menu 6-124)
3. Press **ENTER** to reset the Linearity adjustments
Or,
Press **EXIT** to return to the Geometry Reset menu.



Menu 6-123

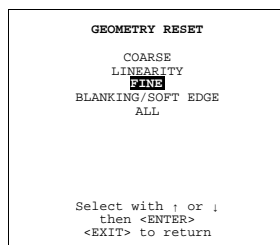


Menu 6-124

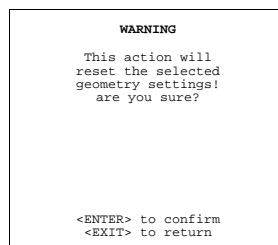
6.5.7.10.4 Reset Fine

How to reset the Fine adjustments ?

1. Push the cursor key ↑ or ↓ to highlight *Fine* within the *Geometry Reset* menu. (menu 6-125)
2. Press **ENTER** to select.
A warning will be displayed . (menu 6-126)
3. Press **ENTER** to reset the Fine adjustments
Or,
Press **EXIT** to return to the Geometry Reset menu.



Menu 6-125



Menu 6-126

6.5.7.10.5 Reset Blanking/Soft Edge

How to reset the Blanking/Soft Edge adjustments ?

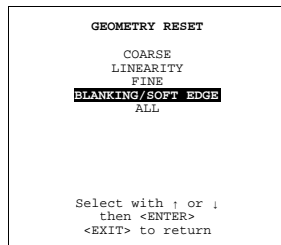
1. Push the cursor key ↑ or ↓ to highlight *Blanking/Soft Edge* within the *Geometry Reset* menu. (menu 6-127)
2. Press **ENTER** to select.
The *Soft Edge Reset* menu will be displayed. (menu 6-128)
3. Push the cursor key ↑ or ↓ to highlight *Soft Edge* or *All* in the Soft Edge Reset menu.

Soft Edge	Only the Soft Edge Width values will be reset to their default values.
All	All Blanking/Soft Edge values will be reset to their default values.

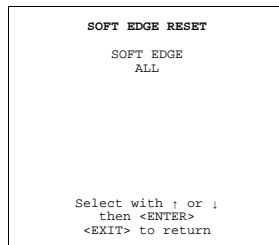
4. Press **ENTER** to select the desired Blanking/Soft Edge Reset value.

A warning will be displayed . (menu 6-129)

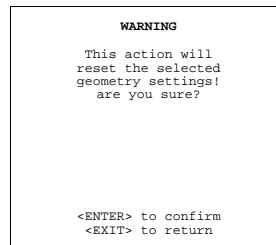
5. Press **ENTER** to reset the selected Blanking/Soft Edge adjustments
Or,
Press **EXIT** to return to the Geometry Reset menu.



Menu 6-127



Menu 6-128

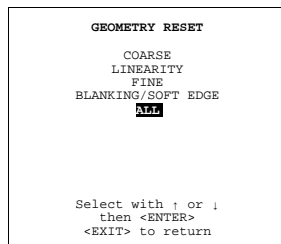


Menu 6-129

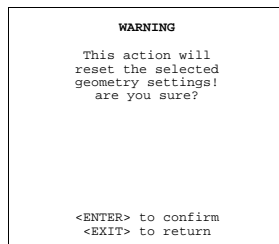
6.5.7.10.6 Reset All

How to reset the All geometry adjustments ?

1. Push the cursor key ↑ or ↓ to highlight *All* within the *Geometry Reset* menu. (menu 6-130)
2. Press **ENTER** to select.
A warning will be displayed . (menu 6-131)
3. Press **ENTER** to reset the All geometry adjustments
Or,
Press **EXIT** to return to the Geometry Reset menu.



Menu 6-130



Menu 6-131

6.5.8 Rename

Start Up

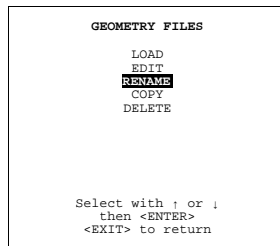
To change the name of a selected file:

1. Push the cursor key ↑ or ↓ to highlight *Rename*. (menu 6-132)
2. Press **ENTER**.

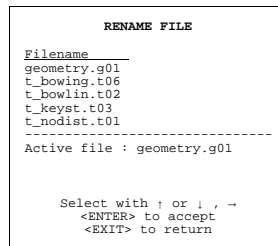
The Rename selection menu will be displayed. (menu 6-133)

3. Push the cursor key ↑ or ↓ to select a file name.
4. Press **ENTER** to select.

The Rename file menu will be displayed with the selected file name already filled in, leave in the 'From file name : ' area and in the 'To file name : ' area. The first character in the 'To file name : ' area is highlighted.



Menu 6-132



Menu 6-133

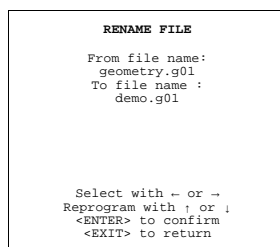
Changing the characters

1. Push the cursor keys ← or → to select the desired character. (menu 6-134)
Or,
Change that character by pushing the cursor keys ↑ or ↓. Numeric characters can be entered directly with numeric keys on the RCU.
Or,
Press **ENTER** to confirm.

The renamed file is entered in the list of files.

2. Press **EXIT** to return to the Rename menu selection.

No changes are made.



Menu 6-134

6.5.9 Copy

Start Up

To copy the name of a selected file :

1. Push the cursor key ↑ or ↓ to highlight *Copy*. (menu 6-135)
2. Press **ENTER**.

The Copy selection menu will be displayed. (menu 6-136)

3. Push the cursor key ↑ or ↓ to select a file name.
4. Press **ENTER** to select.

The Copy file menu will be displayed with the selected file name already filled in, leave in the 'From file name : ' area and in the 'To file name : ' area. The first character in the 'To file name : ' area is highlighted.

```

GEOMETRY FILES

LOAD
EDIT
RENAME
COPY
DELETE

Select with ; or |
then <ENTER>
<EXIT> to return

```

Menu 6-135

```

COPY FILE

Filename
geometry.g01
t_bowling.t06
t_bowlin.t02
t_keyst.t03
t_nodist.t01
-----
Active file : geometry.g01

Select with ; or |, →
<ENTER> to accept
<EXIT> to return

```

Menu 6-136

Changing the characters

1. Push the cursor key ← or → to select the desired character. (menu 6-137)
Or,
Change that character by pushing the cursor keys ↑ or ↓. Numeric characters can be entered directly with numeric keys on the RCU.
Or,
Press **ENTER** to confirm.

The copy file is entered in the list of files.

2. Press **EXIT** to return to the Copy menu selection.
No changes are made.

```

COPY FILE

From file name:
geometry.g01
To file name :
demo.g01

Select with ← or →
Reprogram with ; or |
<ENTER> to confirm
<EXIT> to return

```

Menu 6-137

6.5.10 Delete

How to delete a Geometry file?

To delete a selected file out of the list of files :

1. Push the cursor key ↑ or ↓ to highlight *Delete*. (menu 6-138)
2. Press **ENTER**.

The delete selection menu will be displayed. (menu 6-139)

3. Push the cursor key ↑ or ↓ to select a file name.

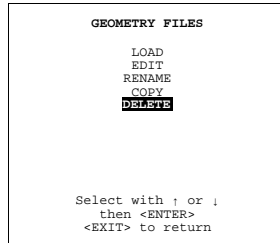
4. Press **ENTER** to select.

If [all] is selected, your password has to be entered before all files will be deleted.

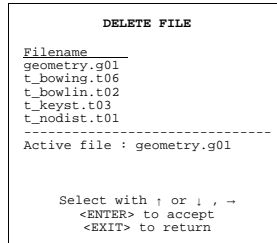
A confirmation menu "Delete file name ?" is displayed. (menu 6-140)

5. Press **ENTER** to delete the file, press **EXIT** if you want to keep it.

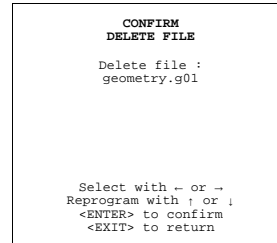
Note: The active file cannot be deleted.



Menu 6-138



Menu 6-139



Menu 6-140

6.6 Stereo Options

Overview

- Starting Up Stereo Options
- Stereo Phase
- Invert Stereo
- Master Channel
- Stereo Mode
- Dark Time
- Forced Asynchronous

6.6.1 Starting Up Stereo Options

Only available in Stereo Mode

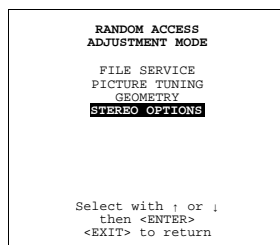
The Stereo Options menu is only available when the projector is running in Stereo Mode = when a Stereo Source is provided by the IG.

When running in Mono Mode these items will be grayed out.

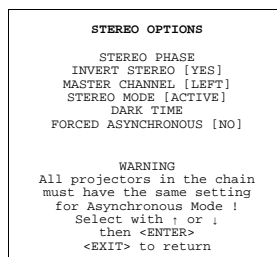
How to Start Up Stereo Options?

1. Push the cursor key ↑ or ↓ to highlight *Stereo Options*. (menu 6-141)
2. Press **ENTER** to select.

The Stereo Options menu will be displayed. (menu 6-142)



Menu 6-141



Menu 6-142

6.6.2 Stereo Phase

What can be done ?

With Stereo Phase it is possible to apply an adjustable time delay on the stereo emitter signal.

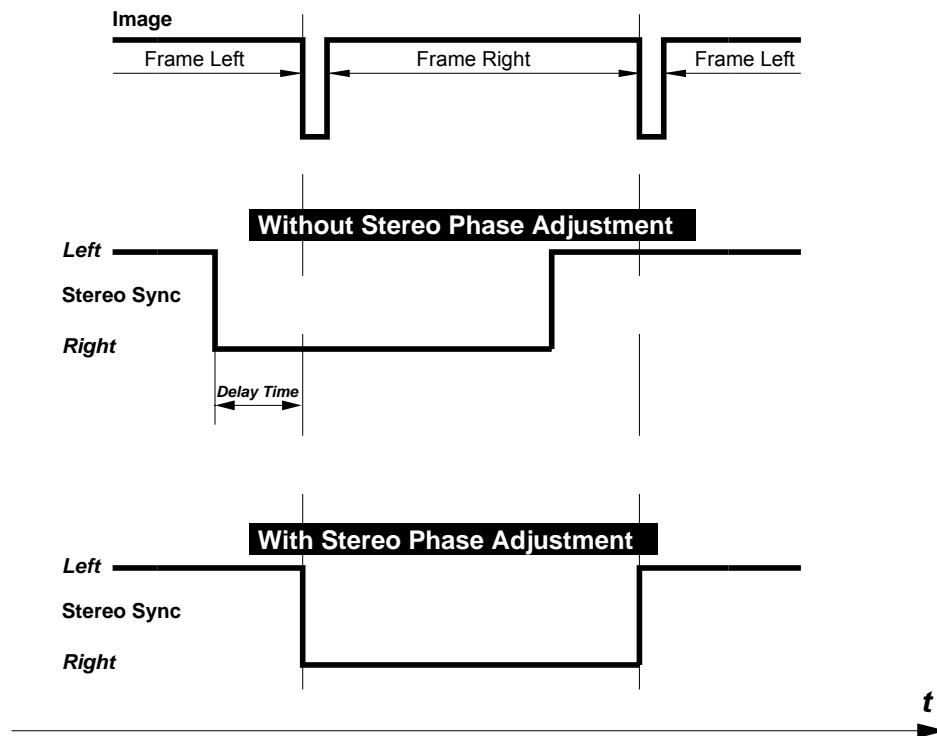


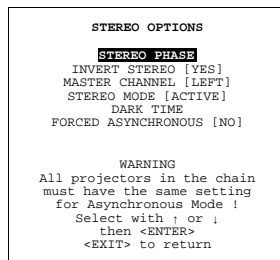
Image 6-55
Stereo Phase Adjustment

How to adjust Stereo Phase?

1. Push the cursor key \uparrow or \downarrow to highlight *Stereo Phase*. (menu 6-143)
2. Press **ENTER** to select.

The Stereo Phase bar scale, displaying the Stereo Phase Adjustment Steps (1 Step = 400 nanoseconds, Range from 0 to 1500), will be displayed. (image 6-56)

3. Push the cursor key \leftarrow or \rightarrow for a fine adjustment of 1step, or push the \uparrow or \downarrow keys for a coarse adjustment of 100 steps.
Note: Adjustment is possible until a full frame delay is reached.
4. Press **EXIT** to return to the *Stereo Options* menu.



Menu 6-143

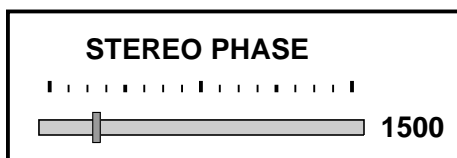


Image 6-56
The Stereo Phase bar scale

6.6.3 Invert Stereo

What can be done?

With *Invert Stereo* we can invert the stereo emitter signal (Left eye opens when a right image is supplied to the projector)



We advise to set *Invert Stereo* ON, one frame delay is inherent to DLP technology.

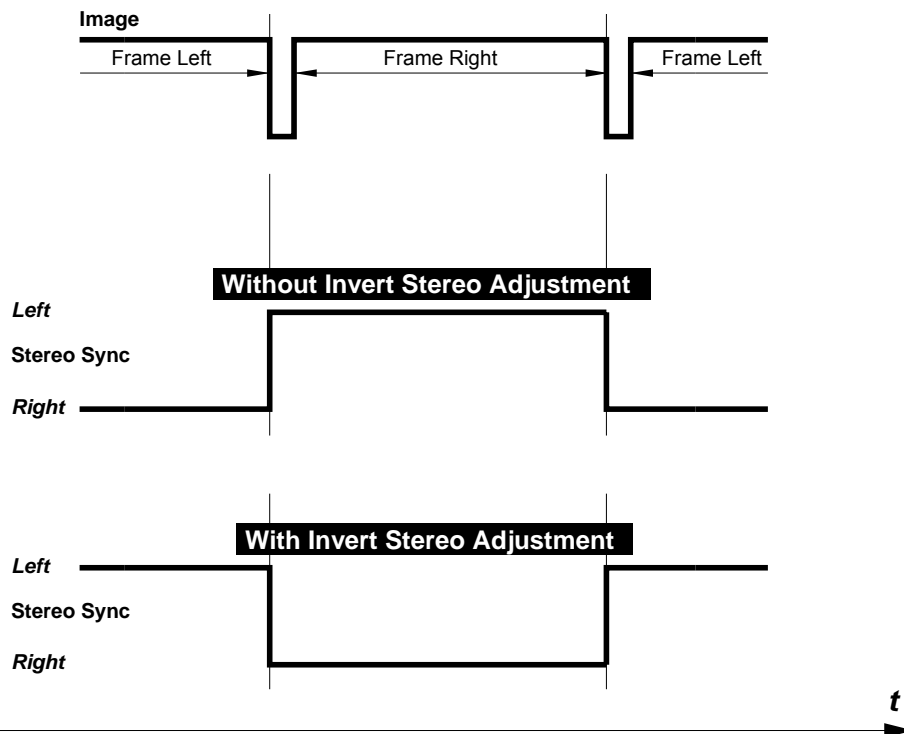
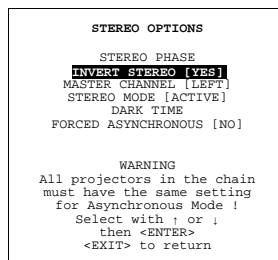


Image 6-57
Invert Stereo Adjustment

How to activate Invert Stereo?

1. Push the cursor key \uparrow or \downarrow to highlight *Invert Stereo*. (menu 6-144)
2. Press **ENTER** to toggle between [YES] or [NO].
3. Press **EXIT** to return to the *Stereo Options* menu.



Menu 6-144

6.6.4 Master Channel

What can be done?

The Stereo IG will always provide a left + right image to the projector.

It is possible to force the projector into mono mode, by setting the Stereo Mode to Passive, only the left or the right image is displayed,

Use the *Master Channel* menu to select either the *Left* or the *Right* image, this Master Channel will be displayed when the Stereo Mode is set to Passive.

How to Select Master Channel?

1. Push the cursor key ↑ or ↓ to highlight *Master Channel*. (menu 6-145)
2. Press **ENTER** to toggle between [LEFT] or [RIGHT].
3. Press **EXIT** to return to the *Stereo Options* menu.

```

STEREO OPTIONS

STEREO PHASE
INVERT STEREO [YES]
MASTER CHANNEL [LEFT]
STEREO MODE [ACTIVE]
DARK TIME
FORCED ASYNCHRONOUS [NO]

WARNING
All projectors in the chain
must have the same setting
for Asynchronous Mode !
Select with ↑ or ↓
then <ENTER>
<EXIT> to return

```

Menu 6-145

6.6.5 Stereo Mode

What can be done?

Stereo Mode is default set to *Active*, a Stereo Image is projected when provided by the IG.

However it is possible to display only the left or right image of the Stereo Image Pair, this is done by setting the *Stereo Mode* to *Passive*.

Either the left or right image is projected, according to the Master Channel Selection.

How to Set Up Stereo Mode?

1. Push the cursor key ↑ or ↓ to highlight *Master Channel*. (menu 6-146)
2. Press **ENTER** to toggle between [ACTIVE] or [PASSIVE].

ACTIVE	The Projector will run in the default Stereo Mode, a stereo image is projected.
PASSIVE	The Projector will only display the left or right image of the Stereo Image, according to the Master Channel Selection, either the left or right image is projected.

3. Press **EXIT** to return to the *Stereo Options* menu.

```

STEREO OPTIONS

STEREO PHASE
INVERT STEREO [YES]
MASTER CHANNEL [LEFT]
STEREO MODE [ACTIVE]
DARK TIME
FORCED ASYNCHRONOUS [NO]

WARNING
All projectors in the chain
must have the same setting
for Asynchronous Mode !
Select with ↑ or ↓
then <ENTER>
<EXIT> to return

```

Menu 6-146

6.6.6 Dark Time

What can be done?

The principle of a pair of Stereo Glasses is quite simple:

1. When the left image is projected, the left shutter is open, allowing the left eye to see the left image. The shutter for the right eye is closed.
2. During the blanking period, before projecting the right image, the left shutter is closed and the right shutter will open.
3. The right image is projected, the right shutter is open, allowing the right eye to see the right image.

The ideal situation is when the opening/closing times of these shutters are in sync with the blanking time of DLP mirrors.

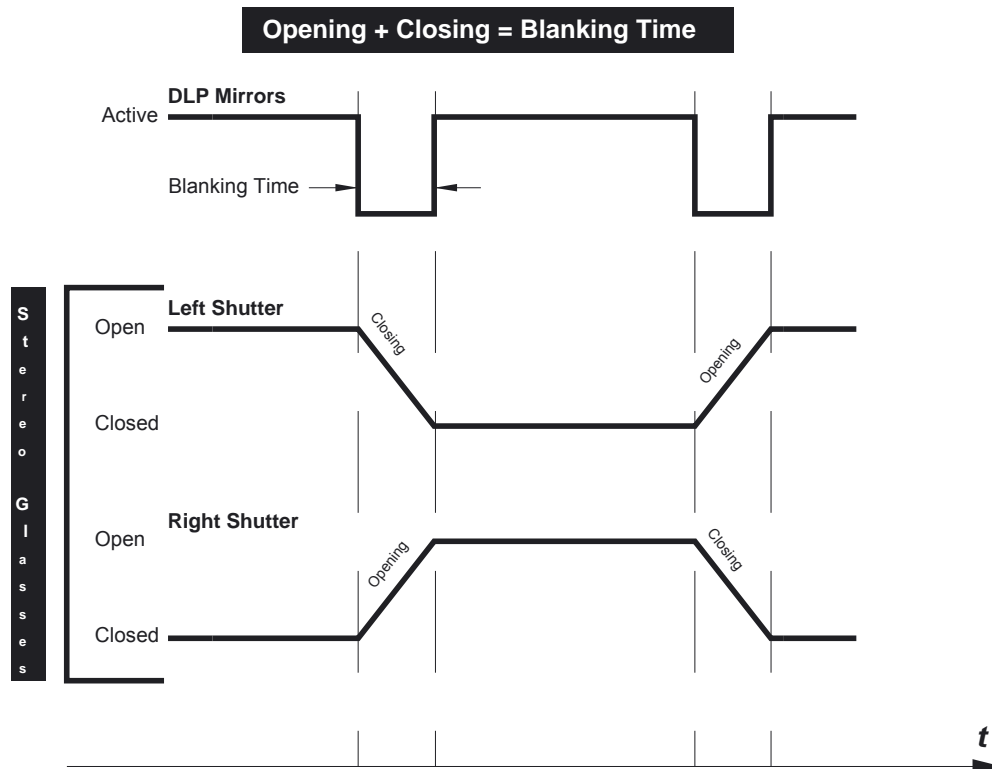


Image 6-58
Opening/closing times of the shutters in sync with the blanking time

Closing these shutters too late and/or opening too early will cause Cross-Talk.

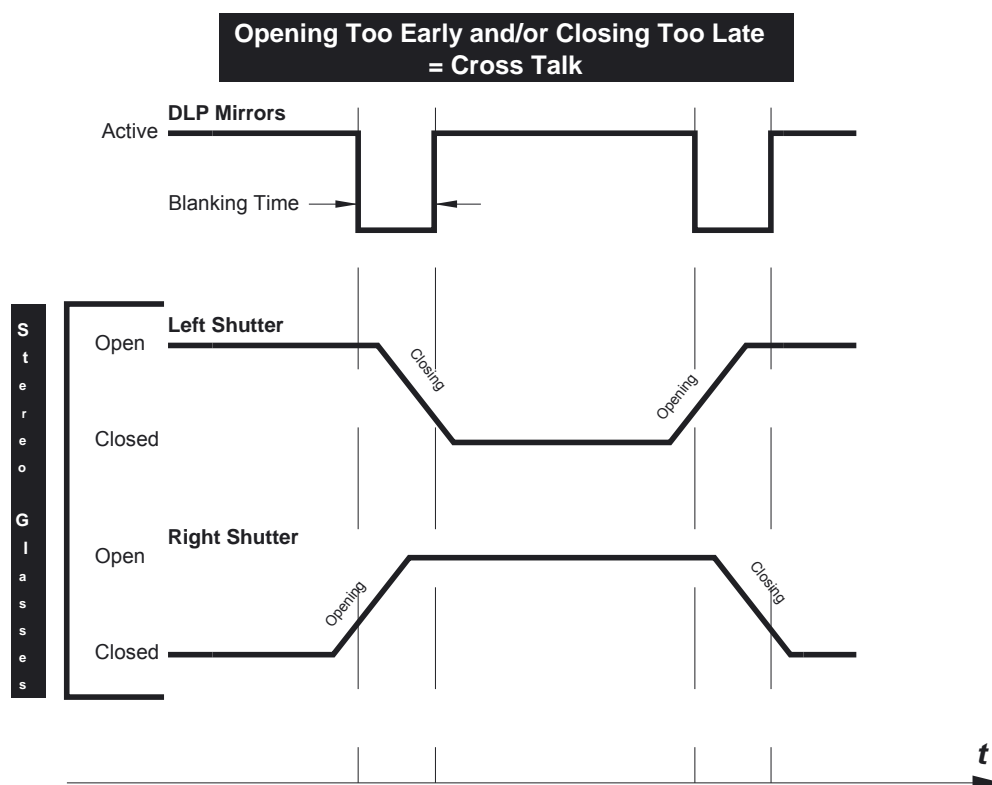


Image 6-59
Shutters closing too late and/or opening too early cause Cross-Talk

Closing these shutters too quickly and/or opening too slowly will cause Color Artifacts.

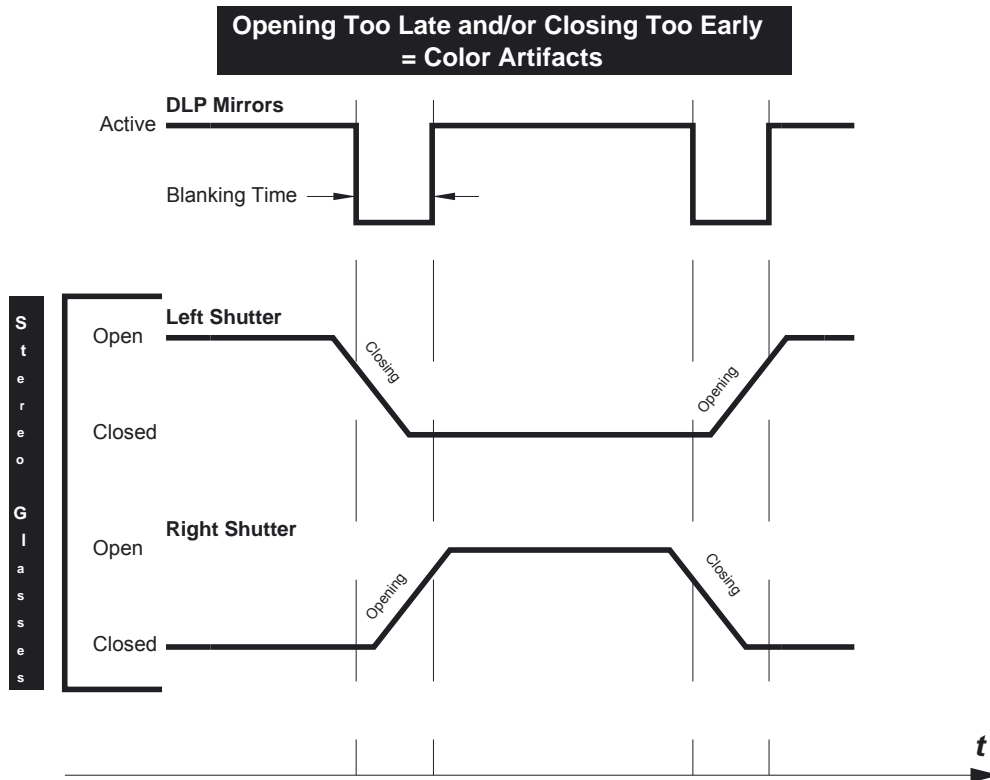


Image 6-60
Shutters closing too early and/or opening too late cause Color Artifacts

Adjusting the Dark Time will allow an easy synchronization of the Blanking Period of the DLP mirrors with the opening/closing time of the shutters in the Stereo Glasses.

How to Adjust Dark Time?

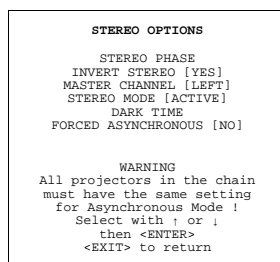
1. Push the cursor key \uparrow or \downarrow to highlight *Dark Time*. (menu 6-147)
2. Press **ENTER** to select.

The Dark Time bar scale, displaying the width in % (Range from 0 to 100 %), will be displayed. (image 6-61)

3. Change the Dark Time Value by pushing the cursor key \leftarrow or \rightarrow until the desired value is reached.

Note: By default Dark Time is set to maximum (100%).

4. Press **EXIT** to return to the Stereo Options menu.



Menu 6-147



Image 6-61
The Dark Time bar scale

6.6.7 Forced Asynchronous

What is Synchronous Mode?

When the IG provides a signal within the range from 96Hz to 108Hz, the projector will run Synchronous with the IG, this will give the best result when projecting moving images.

What is Asynchronous Mode?

If the IG provides a signal that is not in the Synchronous Range (=96Hz to 108Hz), the projector will automatically run in Asynchronous Mode, the image will be displayed by the projector at 104Hz.



If the input is a Stereo Source and the frequency is in a range from 48Hz to 60 Hz, the image will be displayed by the projector at 104Hz.

What is Forced Asynchronous Mode (What can be done)?

When projecting a non-moving image (e.g. CAD design) with an IG providing a signal within the range from 96Hz to 108Hz, the best result is achieved by projecting the non-moving image in the Asynchronous Mode.

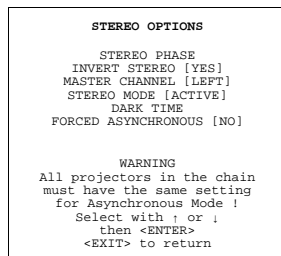
By using the Forced Asynchronous menu, the projector is forced into the Asynchronous Mode, giving the best result when projecting an non-moving image.

How to Activate Forced Asynchronous?

1. Push the cursor key ↑ or ↓ to highlight *Forced Asynchronous*. (menu 6-148)
2. Press **ENTER** to toggle between [Yes] or [No].

Yes	The Projector will always run in Asynchronous Mode, projecting the image at 104Hz.
No	When the IG provides a signal within the range from 96Hz to 108Hz, the projector will run Synchronous with the IG, if not the Projector will run in Asynchronous Mode (=104Hz).

3. Press **EXIT** to return to the *Stereo Options* menu.



Menu 6-148

7. INSTALLATION MODE

Overview

- Installation Mode Overview
- Starting Up Installation
- Input Slots
- No Signal
- Lens Adjustment
- Changing the Menu Position
- 800–Peripheral
- Configuration
- OSD Color
- Internal Patterns

7.1 Installation Mode Overview

Installation Mode Overview

- Input Slots
- No Signal
 - Color [Blue/Black]
 - Shutdown [On/Off]
 - Shutdown Time
- Lens
 - Zoom/Focus
 - Shift
- Menu Position [Center/Edges]
- 800 Peripheral
 - Output Module [Standard/5 Cable]
 - Infrared [PPM/RC5]
- Configuration
 - Front /Table
 - Front / Ceiling
 - Rear / Table
 - Rear / Ceiling
- OSD Color
 - Red
 - Green
 - Yellow
- Internal Patterns
 - Outline
 - Hatch
 - Color Bars
 - Multiburst
 - Checker Board
 - Purity
 - Page Char
 - Alpha-Numeric Chars
 - Character Sets

7.2 Starting Up Installation

How to Start Up Installation?

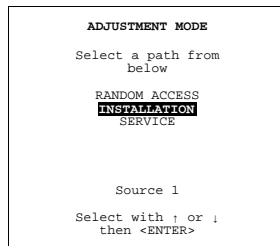
1. Press **ADJUST** or **ENTER** key to start up the *Adjustment Mode*.

The *Adjustment Mode* menu will be displayed.

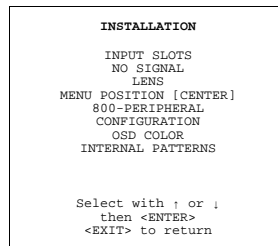
2. Push the cursor key ↑ or ↓ to highlight *Installation*. (menu 7-1)

3. Press **ENTER** to select.

The *Installation* menu will be displayed. (menu 7-2)



Menu 7-1



Menu 7-2

Overview of the different settings of the Installation menu

- Input slots: to set up the input priority
- No signal: selection of a black or blue background color
- Lens: to adjust the zoom/focus and the horizontal/vertical shift of the lens
- Menu Position: to position the menu (picture settings: contrast, ...) in the center or at the edge of the screen
- 800 Peripheral: to select the type of output module and communication code used in the RCVDS 05
- Configuration: to set the projector configuration settings
- OSD color: to change the color of the highlighted item
- Internal Patterns: selection of different patterns

7.3 Input Slots

What can be done?

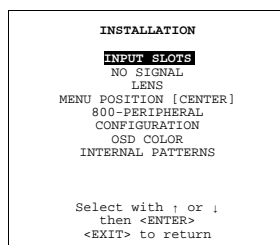
The input configuration of the variable inputs is shown in the *Input slots* menu.

How to change the Input Slots Settings?

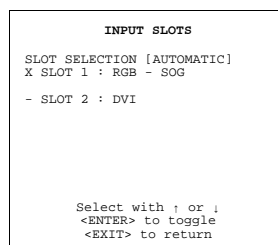
1. Push the cursor key ↑ or ↓ to highlight *Input Slots*. (menu 7-3)

2. Press **ENTER** to select.

The *Input Slots* menu will be displayed. (menu 7-4)



Menu 7-3



Menu 7-4



The indication in front of the digit means:

X : Valid Signal connected to the input.

- : No Valid Signal connected to the input.

How to change the Slot Selection?

1. Push the cursor key ↑ or ↓ to highlight *Slot Selection*.
2. Press **ENTER** to toggle between [AUTOMATIC] or [MANUAL].
Note: The default setting for the Slot Selector is [AUTOMATIC].

[AUTOMATIC]	The projector will scan the inputs one by one, if one source is found, this source will be projected, if different sources are found the priority is as follow (Input 1: 5 Cable Input, Input 2: Computer).
[MANUAL]	The user will select the desired input.

Possible results for the fixed inputs (1&2)

Source	Indication
RGB analog	RGB-SS [CS OR HS&VS] : Separate Sync is Composite Sync or Horizontal & Vertical Sync RGB-SOG : Sync On Green
DVI	DVI

What if a switcher is connected to the projector?

If a RCVDS (switched on) or VS05 is connected to the projector, it will be also indicated on the menu by adding +800 peripheral.

If no 800 peripheral indication is made on the menu, there are still two possibilities, no RCVDS or VS05 connected or RCVDS is switched off.

When a 800 peripheral is connected to the projector, the input slots are not accessible with the cursor key to toggle their function.

7.4 No Signal

Overview

- Starting Up No Signal
- Changing the Background Color
- Changing the Shutdown Setting
- Changing the Shutdown Time Setting

7.4.1 Starting Up No Signal

How to Start Up No Signal?

1. Push the cursor key ↑ or ↓ to highlight *No Signal*. (menu 7-5)
2. Press **ENTER** to select.

The *No Signal* menu will be displayed. (menu 7-6)

INSTALLATION	
INPUT SLOTS	
NO SIGNAL	
LENS	
MENU POSITION [CENTER]	
800-PERIPHERAL	
CONFIGURATION	
OSD COLOR	
INTERNAL PATTERNS	
Select with ↑ or ↓	
then <ENTER>	
<EXIT> to return	

Menu 7-5

NO SIGNAL	
COLOR [BLUE]	
SHUTDOWN [OFF]	
SHUTDOWN TIME 0 MIN	
Select with ↑ or ↓	
then <ENTER>	
<EXIT> to return	

Menu 7-6

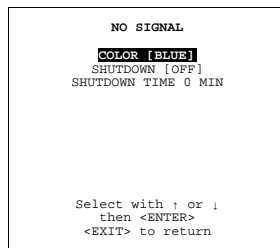
7.4.2 Changing the Background Color

What can be done?

When no source signal is present a Blue or Black background color will be displayed.

How to Change the Background Color?

1. Push the cursor key ↑ or ↓ to highlight *Color*. (menu 7-7)
2. Press **ENTER** to toggle between the [Blue] or [Black] Background Color Setting.



Menu 7-7

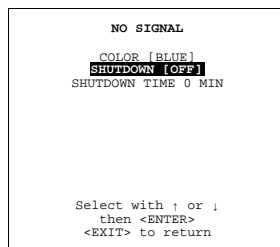
7.4.3 Changing the Shutdown Setting

What can be done?

Activating the Shutdown Setting will shut down the projector according to the Shutdown Time Setting.

How to change the Shutdown Setting?

1. Push the cursor key ↑ or ↓ to highlight *Shutdown*. (menu 7-8)
2. Press **ENTER** to toggle the Shutdown Setting [OFF] or [ON].



Menu 7-8

7.4.4 Changing the Shutdown Time Setting



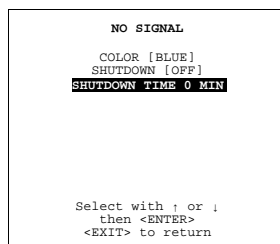
In case Shutdown is set to [OFF] this item will be grayed out.

What can be done?

This Shutdown Time can be set between 5 min. and 60 min.

How to Change the Shutdown Time Setting?

1. Push the cursor key ↑ or ↓ to highlight *Shutdown Time*. (menu 7-9)
2. Push the cursor key ↑ or ↓ to change the digits.
Or,
Enter the digits directly with the digit keys on the RCU.



Menu 7-9

7.5 Lens Adjustment

Overview

- Starting Up Lens Adjustment
- Lens Zoom/Focus Adjustment
- Lens Shift Adjustment

7.5.1 Starting Up Lens Adjustment

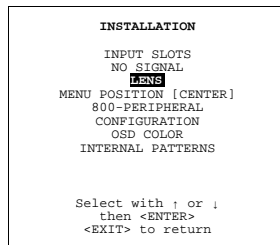
What can be done?

This will adjust the zoom, focus, horizontal shift and vertical shift settings of the lens.

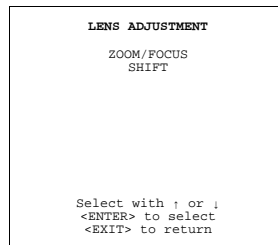
How to Start Up Lens Adjustment?

1. Push the cursor key ↑ or ↓ to highlight *Lens*. (menu 7-10)
2. Press **ENTER** to select.

The *Lens Adjustment* menu will be displayed. (menu 7-11)



Menu 7-10



Menu 7-11

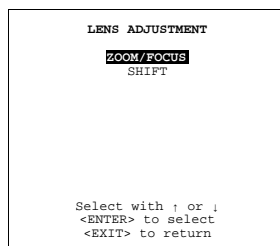
7.5.2 Lens Zoom/Focus Adjustment

How to adjust Zoom/Focus?

1. Push the cursor key ↑ or ↓ to highlight *Zoom/Focus*. (menu 7-12)
2. Press **ENTER** to select.

The *Zoom/Focus Adjustment* menu will be displayed. (image 7-1)

3. Push the cursor key ↑ or ↓ to zoom and ← or → to focus the image.
4. Press **EXIT** to return to the *Lens Adjustment* menu.



Menu 7-12

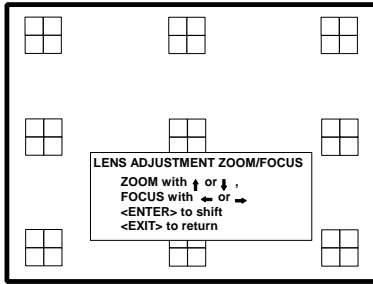
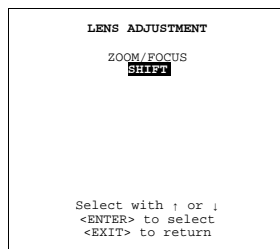


Image 7-1
Zoom/Focus adjustment menu

7.5.3 Lens Shift Adjustment

How to adjust the Horizontal/Vertical Shift?

1. Push the cursor key ↑ or ↓ to highlight *Shift*. (menu 7-13)
2. Press **ENTER** to select.
The *Shift Adjustment* menu will be displayed. (image 7-2)
3. Push the cursor key ↑ or ↓ to shift the image up or down and ← or → to shift the image left or right.
4. Press **EXIT** to return to the *Lens Adjustment* menu.
5. Press **EXIT** to return to the *Installation* menu.



Menu 7-13

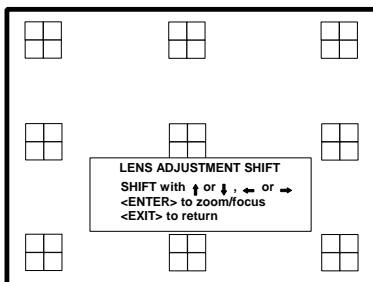


Image 7-2

7.6 Changing the Menu Position

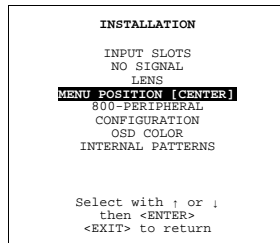
What can be done?

The Menu can be displayed in the bottom right corner or the center of the displayed image.

How to change the Menu Position?

1. Push the cursor key ↑ or ↓ to highlight *Menu Position*. (menu 7-14)
2. Press **ENTER** to toggle between [CENTER] or [EDGES].

[EDGES]	The Menu will always be displayed in the bottom right corner.
[CENTER]	The Menu will always be in the middle of the image.



Menu 7-14

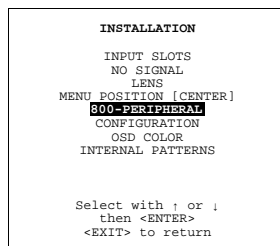
7.7 800-Peripheral

7.7.1 Starting Up 800-Peripheral

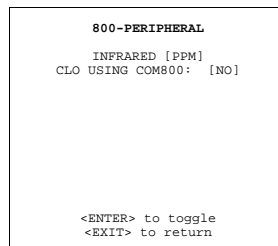
How to Start Up 800-Peripheral?

1. Push the cursor key ↑ or ↓ to highlight *800-Peripheral*. (menu 7-15)
2. Press **ENTER** to select.

The *800-Peripheral* menu will be displayed. (menu 7-16)



Menu 7-15



Menu 7-16

7.7.2 Defining the Communication Protocol of the RCVDS05

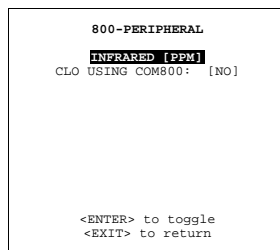
Which protocols are available ?

When a RCVDS05 is connected to the projector, the type of communication protocol used to communicate with the peripheral has to be defined in the 800 peripheral menu.

- PPM
- RC5

Defining the Communication Protocol

1. Push the cursor key ↑ or ↓ to highlight *Infrared*. (menu 7-17)
2. Press **ENTER** to toggle between [PPM] or [RC5].



Menu 7-17

7.7.3 COM800 Protocol

What can be done?

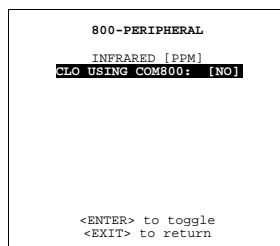
CLO and Dynacolor™ can be activated in a linked system setup using the RS232 Protocol + Ports, or by using the COM800 Protocol + Ports.



By using the COM800 Protocol + Ports, the RS232 Ports can be used for a RS232 linked setup, CLO and Dynacolor™ are received through the COM800 Ports, general RS232 commands are received through the RS232 Ports.

How to change the COM800 Protocol Activation?

1. Push the cursor key ↑ or ↓ to highlight CLO using COM800: [NO]. (menu 7-18)
2. Press **ENTER** to toggle between [NO] or [YES].



Menu 7-18

7.8 Configuration

What can be done?

The way of physical installation of the projector can be defined to the projector.

The following installation configurations are possible:

- Front / Table
- Front / Ceiling
- Rear / Table
- Rear / Table

How to set Configuration?

1. Push the cursor key ↑ or ↓ to highlight *Configuration*. (menu 7-19)
2. Press **ENTER** to select.

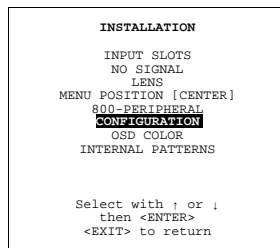
The configuration menu will be displayed. (menu 7-20)

3. Push the cursor key ↑ or ↓ to highlight the desired configuration e.g. Front / Table.

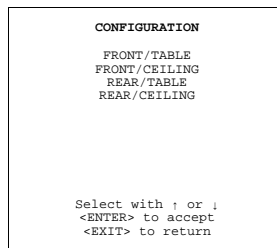
- Press **ENTER** to confirm.

The Projector will display the image according to the selected configuration.

- Press **EXIT** to return to the *Installation* menu.



Menu 7-19



Menu 7-20

7.9 OSD Color



OSD = On Screen Display

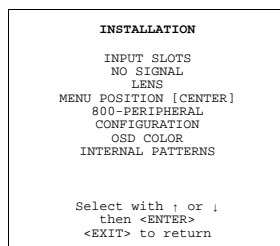
What can be done?

The highlighted items in the menu can be displayed in:

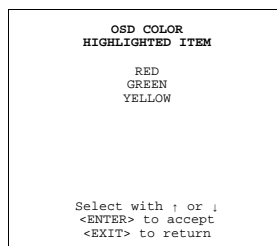
- Red
- Green
- Yellow

How to change the OSD Color ?

- Push the cursor key ↑ or ↓ to highlight *OSD Color*. (menu 7-21)
- Press **ENTER** to select.
The OSD color menu will be displayed. (menu 7-22)
- Push the cursor keys to select the desired color.
- Press **ENTER** to select.
- Press **EXIT** to return to the *Installation Mode* menu.



Menu 7-21



Menu 7-22

7.10 Internal Patterns

What can be done?

The projector is equipped with different internal patterns which can be used for measurement purposes.

Available patterns

- Outline
- Hatch
- Color bars
- Multiburst
- Checker board
- Purity
- Page Char
- Alpha numeric char
- Character Sets

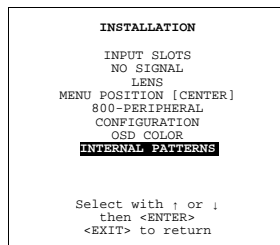
How to select an Internal Patterns?

1. Push the cursor key ↑ or ↓ to highlight *Internal Patterns*. (menu 7-23)
2. Press **ENTER** to select.

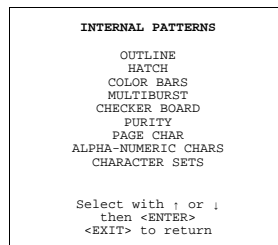
The internal patterns menu will be displayed. (menu 7-24)

3. Push the cursor key ↑ or ↓ to select the desired pattern.
4. Press **ENTER** to select.

The selected pattern will be displayed.



Menu 7-23



Menu 7-24

8. SERVICE MODE

8.1 Service Mode Overview

Service Mode Overview

- Identification
- Change Password
- Change Proj. Address
 - Projector Address
 - Common Address (RC5)
 - Common Address (PPM)
- Change Baudrate PC
- Lamp
 - Constant Light Output [Master/Slave]
 - Mode [Normal/Economic]
- Barco Logo
 - Status [On/Off]
 - Background [On/Off]
 - Shift
 - Hot Key [Text/Off]
- Preset Input Balance Warp 1
- Preset Input Balance Warp 2
- Electronic Convergence
- Diagnosis
 - I²C
 - Formatter
 - SMPS
- DynaColor
 - Color Coordinates
 - Exec. Linked Dynacolor

8.2 Build-up

Build-up

The service menu is build-up in two parts which are connected together with the 'more' item. If the desired item is not in the list of the displayed menu, select 'more' with the cursor key and push ENTER to display the other items in the service menu.

8.3 Starting Up Service

How to Start Up Service?

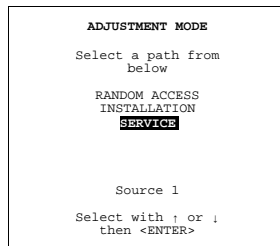
1. Press **ADJUST** or **ENTER** key to start up the *Adjustment Mode*.

The *Adjustment Mode* menu will be displayed.

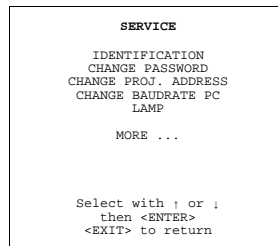
2. Push the cursor key ↑ or ↓ to highlight *Service*. (menu 8-1)

3. Press **ENTER** to select.

The *Service* menu will be displayed. (menu 8-2)



Menu 8-1



Menu 8-2



Some items in the Service menu are password protected (when the password function is active). Enter the password to continue. All other password protected items are now available if you stay in the adjustment mode.

8.4 Identification Screen

What can be seen on the Identification Screen?

The title page screen shows the general information of the projector.

The following items will be displayed:

- Type of projector: Barco Galaxy WARP™
- Proj. address
- Software version
- Configuration:
 - Front / Table
 - Front / Ceiling
 - Rear / Table
 - Rear / Ceiling
- Baudrate PC: transfer speed for communication with an IBM PC (or compatible) or MAC. The baudrate of the projector must be the same as the baudrate of the connected computer. When there is a difference, consult 'Change Baudrate PC' in this chapter.
- Text: Indicates if the on screen text information (picture setting textboxes: contrast,...) is enabled or not
- Projector Serial number: indicates the fabrication number of the projector. This number can be useful when calling for technical assistance.
- Projector Run Time: gives the total run time since the first start up. All projectors leave the factory with a run time of approximately 24 hours.

How to display the Identification Screen?

1. Push the cursor key ↑ or ↓ to highlight *Identification*. (menu 8-3)
2. Press **ENTER** to select.

The Identification Screen will be displayed. (menu 8-4)

```

SERVICE
  IDENTIFICATION
CHANGE PASSWORD
CHANGE PROJ. ADDRESS
CHANGE BAUDRATE PC
  LAMP
  MORE ...

Select with ; or |
then <ENTER>
<EXIT> to return

```

Menu 8-3

```

BARCO
GALAXY WARP

Proj. address : 006
Soft. version : 1.40
Config : FRONT
TABLE
Baudrate PC : 57600
Text : ON
Serial No. : 1243439
Run Time : 164 hrs

<EXIT> to return

```

Menu 8-4

8.5 Change Password

How to Change the Password?

1. Push the cursor key ↑ or ↓ to highlight *Change Password*. (menu 8-5)
2. Press **ENTER** to select.

The *Change Password* menu will be displayed. (menu 8-6)

4 ' _ ' characters are displayed. A new password can be entered with the digit keys of the RCU or local keypad. Every time a digit is entered, a 'X' appears on the screen. The confirm new password is still grayed out.

3. Do you want to activate the new password?
If yes, Press **ENTER** to confirm the new password.

4 'x' characters are displayed in the confirm new password area. Key in your password again with the digit keys of the RCU or the local keypad.

If the confirm new password entry is the same as the entered new password, the password is changed.

If no, Press **EXIT** if no changes have to be made.

```

SERVICE
  IDENTIFICATION
  CHANGE PASSWORD
CHANGE PROJ. ADDRESS
CHANGE BAUDRATE PC
  LAMP
  MORE ...

Select with ; or |
then <ENTER>
<EXIT> to return

```

Menu 8-5

```

CHANGE PASSWORD

Enter new password
- - - -
Confirm new password
- - - -

Select with - or -
Reprogram with
numeric keys
<ENTER> to confirm
<EXIT> to return

```

Menu 8-6

8.6 Change Projector Address

What can done?

Within the Change Projector Address menu, following items can be changed:

- Projector Address
- Common Address



For more information on Common and Projector Address see 'Controlling the projector' in the chapter 'Getting Started'.

8.6.1 Starting Up Change Projector Address

How to Start Up Change Projector Address?

1. Push the cursor key ↑ or ↓ to highlight *Change Proj Address*. (menu 8-7)
2. Press **ENTER** to select.

The *Change Projector Address* menu will be displayed. (menu 8-8)

```
SERVICE
IDENTIFICATION
CHANGE PASSWORD
CHANGE PROJ. ADDRESS
CHANGE BAUDRATE PC
LAMP
MORE ...

Select with ↑ or ↓
then <ENTER>
<EXIT> to return
```

Menu 8-7

```
CHANGE PROJECTOR ADDRESS

PROJECTOR ADDRESS 6
COMMON ADDRESS (RC5) 0
COMMON ADDRESS (PPM) 0

Select with ↑ or ↓
then <ENTER>
Reprogram with ↑,↓,←,→
or numeric keys
<ENTER> to confirm
<EXIT> to return
```

Menu 8-8

8.6.2 Changing the Projector Address

How to Change the Projector Address?

1. Push the cursor key ↑ or ↓ to highlight *Projector Address*. (menu 8-9)
2. Press **ENTER** to select.

The actual address is filled in.

The first digit is highlighted.

```
CHANGE PROJECTOR ADDRESS

PROJECTOR ADDRESS 6
COMMON ADDRESS (RC5) 0
COMMON ADDRESS (PPM) 0

Select with ↑ or ↓
then <ENTER>
Reprogram with ↑,↓,←,→
or numeric keys
<ENTER> to confirm
<EXIT> to return
```

Menu 8-9

How to Enter the new Projector Address?

1. Enter the digits with the digit keys on the RCU or local keypad.
Or,
push the cursor keys ← or → to select a digit and change the value by pushing the cursor key ↑ or ↓ until the new value is reached.



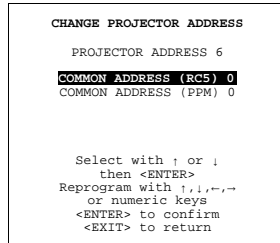
Continue with the other digits on the same way. The individual address must be between 0 and 255.

In a Linked CLO and/or Dynacolor™ setup a maximum of 14 projectors can be linked, all projectors must have a different projector address between 0 and 13.

8.6.3 Changing the Common Address

How to Change the Common Address?

1. Push the cursor key ↑ or ↓ to highlight the active *Common Address* e.g. (RC5). (menu 8-10)
2. Press **ENTER** to select.



Menu 8-10

Entering the new Common Address

1. Enter with the digit keys on the RCU or the local keypad
Or,
pushing the cursor key ↑ or ↓ until the new value is reached.



Only addresses between 0 and 1 are valid.

8.7 Change Baudrate PC

What can be done?

The baudrate of the projector must be the same as the baudrate of the connected computer. Use this menu to change the baudrate of the projector.

The following baud rates are available:

- 115200
- 57600
- 38400
- 19200
- 9600
- 4800
- 1200

How to Change Baudrate PC?

1. Push the cursor key ↑ or ↓ to highlight *Change Baudrate PC*. (menu 8-11)
2. Press **ENTER** to select.
The *Change Baudrate PC* menu will be displayed.
The actual baudrate will be highlighted. (menu 8-12)
3. Push the cursor key ↑ or ↓ to highlight the desired Baudrate.
4. Press **ENTER** to accept the selected Baudrate.

```

SERVICE
IDENTIFICATION
CHANGE PASSWORD
CHANGE PROJ. ADDRESS
CHANGE BAUDRATE PC
LAMP
MORE ...

Select with ↑ or ↓
then <ENTER>
<EXIT> to return

```

Menu 8-11

```

CHANGE BAUDRATE PC
115200
57600
38400
19200
9600
9600
4800
1200

Select with ↑ or ↓
<ENTER> to accept
<EXIT> to return

```

Menu 8-12

8.8 Lamp Menu

Overview

- Starting Up the Lamp Menu
- Constant Light Output (CLO)
- Lamp Mode

8.8.1 Starting Up the Lamp Menu

What can be done?

All information about the lamp is stored inside the lamp house and can be displayed via the projector software, no information can be changed.

Following Lamp Information can be consulted:

Serial number	Unique serial number of the lamp
Article number	Article number of the lamp
Run time	Total time the lamp is used in this projector
Remaining run time	Time left before the lamp must be replaced. Using the lamp longer than the maximum run time may damage the projector
Number of strikes	Total times the lamp is started up
Z-axis	Indication to adjust the Z-axis of the lamp, for more information see 'Re-adjusting the lamp position in the lamp casing' in chapter 'Installation Guidelines'

Table 8-1
Lamp Information

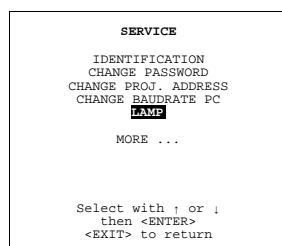
Following Lamp Settings can be changed:

- Constant Light Output
- (Lamp) Mode

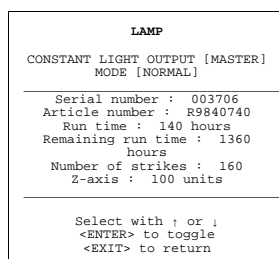
How to Start Up the Lamp Menu?

1. Push the cursor key ↑ or ↓ to highlight *Lamp*. (menu 8-13)
2. Press **ENTER** to select.

The Lamp Menu will be displayed. (menu 8-14)



Menu 8-13



Menu 8-14

8.8.2 Constant Light Output (CLO)

What can be done?

Projectors in a multichannel setup may have different Lamp Runtimes, this will result in a difference in light output between the projectors.

Within this menu it is possible to track and maintain the brightness levels of the projectors, the projectors will deliver a Constant Light Output = CLO.

In a multichannel setup (max 12.) it is possible to link the CLO-values of all projectors, this is done by means of a master-slave projector setup. One projector will act as master, all slave-projectors will track and maintain the CLO setting of this master-projector.



All projectors must have a different projector address between 1 and 12.

All projectors must have the same Baudrate.

The CLO setting of one projector must be in the master position, all others must be in the slave position.

How to Connect the Master-Slave Projectors?

1. Connect a RS232 Terminator (Order number **Z3498823**) to the 'RS232 In' Input of the first projector in the chain.
2. Connect the RS232 Output of the first projector in the chain to the RS232 Input of the next projector.
3. Continue this daisy chain connection to connect all projectors in the set up.

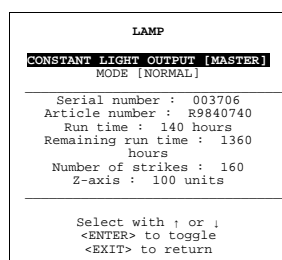
How to Change the Constant Light Output Setting?

1. Push the cursor key ↑ or ↓ to highlight *Constant Light Output*. (menu 8-15)
2. Press **ENTER** to toggle between the different CLO settings.

Following CLO Settings are available:

[MASTER]	Master projector to control the CLO in a chain of projectors
[SLAVE]	Follows the master projector to adjust the CLO
[OFF]	Fixed power, no power adaptation

Table 8-2
CLO Settings



Menu 8-15



To adjust the light output in case of a single, stand alone projector setup, set the CLO setting to [SLAVE].

8.8.3 Lamp Mode

What can be done?

The Lamp can be set to the normal or economic mode.

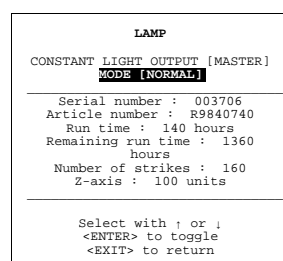
How to change the Lamp Mode Setting?

1. Push the cursor key ↑ or ↓ to highlight *Mode*. (menu 8-16)
2. Press **ENTER** to toggle between the different Mode settings.

Following Mode Settings are available:

[NORMAL]	Normal Light Output
[ECONOMIC]	Reduced Light Output

Table 8-3
(Lamp) Mode Settings



Menu 8-16

8.9 Barco Logo

8.9.1 Starting Up Barco Logo

What can be done?

The Barco Logo can be added to the projected image, in overlay or on a background, on any place on the screen.

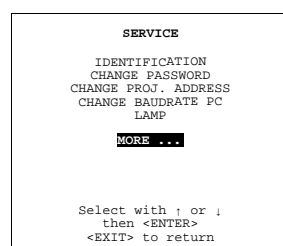
How to Start Up the Barco Logo?

1. Push the cursor key ↑ or ↓ to highlight *More*. (menu 8-17)
2. Press **ENTER** to select.

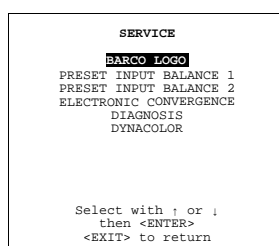
The other items in the *Service* menu will be displayed.

3. Push the cursor key ↑ or ↓ to highlight *Barco Logo*. (menu 8-18)
4. Press **ENTER** to select.

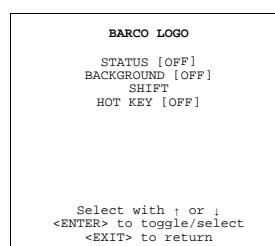
The *Barco Logo* menu will be displayed. (menu 8-19)



Menu 8-17



Menu 8-18



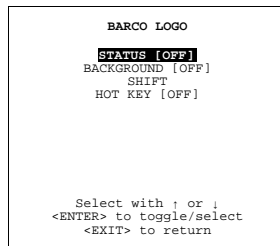
Menu 8-19

8.9.2 Barco Logo Status

How the Change the Barco Logo Status Setting?

1. Push the cursor key ↑ or ↓ to highlight *Status*. (menu 8-20)
2. Press **ENTER** to toggle Status [ON] or [OFF].

[ON]	Barco Logo will be displayed on the screen
[OFF]	Barco Logo will NOT be displayed on the screen



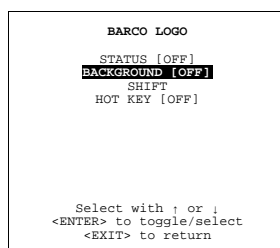
Menu 8-20

8.9.3 Barco Logo Background

How the Change the Barco Logo Background Setting?

1. Push the cursor key ↑ or ↓ to highlight *Background*. (menu 8-21)
2. Press **ENTER** to toggle Background [ON] or [OFF].

[ON]	Barco logo will be displayed on a black background
[OFF]	Barco logo will be displayed without any background

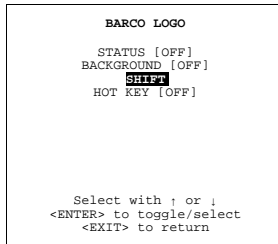


Menu 8-21

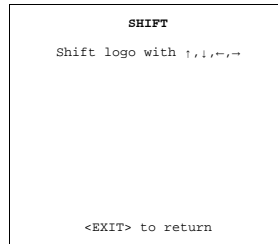
8.9.4 Shift Barco Logo

How to Adjust the Barco Logo Position?

1. Push the cursor key ↑ or ↓ to highlight *Shift*. (menu 8-22)
2. Press **ENTER** to select.
The Shift Adjustment menu will be displayed. (menu 8-23)
3. Use the cursor keys to shift the Barco Logo to the desired position on the screen.
4. Press **EXIT** to return to the *Barco Logo* menu.



Menu 8-22



Menu 8-23

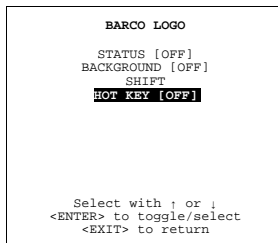
8.9.5 Hot Key

How to Change the Hot Key Setting?

1. Push the cursor key ↑ or ↓ to highlight *Hot Key*. (menu 8-24)
2. Press **ENTER** to toggle the Hot Key Setting [ON] or [OFF].

[ON]	The TEXT key on the RCU is used to display or to remove the Barco Logo with one single push on this key (only in operational mode)
[OFF]	No key on the RCU is used to display the Barco Logo

3. Press **EXIT** to return to the *Service* menu.



Menu 8-24

8.10 Preset Input Balance 1



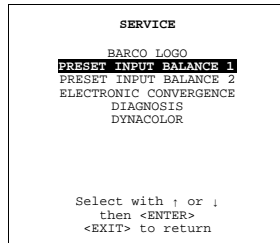
CAUTION: Changing these settings may seriously affect the performance of the projector.

How to Start Up Preset Input Balance?

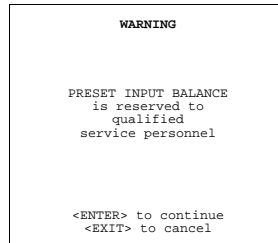
1. Push the cursor key ↑ or ↓ to highlight *Preset Input Balance 1*. (menu 8-25)
2. Press **ENTER** to select.

The following warning will be displayed: (menu 8-26)

Preset input balance is reserved to qualified service personnel. If you are not qualified, press **EXIT** to return to the *Service* menu.



Menu 8-25



Menu 8-26

8.11 Preset Input Balance 2



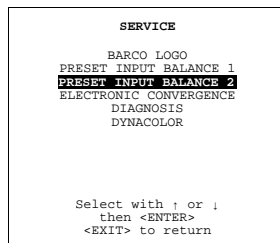
CAUTION: Changing these settings may seriously affect the performance of the projector.

How to Start Up Preset Input Balance 2?

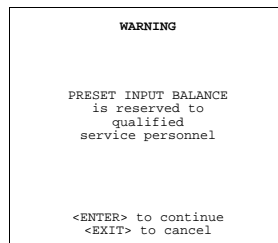
1. Push the cursor key ↑ or ↓ to highlight *Preset Input Balance 2*. (menu 8-27)
2. Press **ENTER** to select.

The following warning will be displayed: (menu 8-28)

Preset input balance is reserved to qualified service personnel. If you are not qualified, press **EXIT** to return to the *Service* menu.



Menu 8-27



Menu 8-28

8.12 Electronic Convergence



CAUTION: Changing these settings may seriously affect the performance of the projector.



CAUTION: This adjustment is best done by a qualified service technician.

What can be done?

The convergence of the projected image can be adjusted in this menu.

Following Convergence Adjustment Patterns are available:

- Green
- Blue On Green
- Red On Green
- Blue On Red
- Hatch

How to adjust the Electronic Convergence?

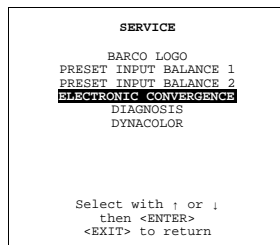
1. Push the cursor key ↑ or ↓ to highlight *Electronic Convergence*. (menu 8-29)
2. Press **ENTER** to select.

The *Convergence* menu will be displayed.

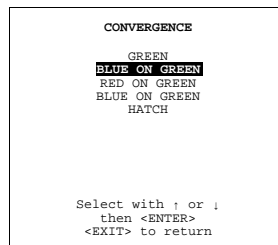
3. Push the cursor key ↑ or ↓ to select the desired Convergence Adjustment Patterns, e.g. Blue on Green. (menu 8-30)

The selected Convergence Adjustment Patterns and Convergence Barscale will be displayed.

4. Use the cursor keys to adjust the Convergence of the projected image.
5. Press **EXIT** to return to the *Convergence* menu.
6. Press **EXIT** to return to *Service* menu.



Menu 8-29



Menu 8-30

8.13 Diagnosis

Overview

- Starting Up Diagnosis
- I²C Diagnosis
- Formatter Diagnosis
- SMPS Diagnosis

8.13.1 Starting Up Diagnosis

What can be done?

Following items can be checked using the Diagnosis menu:

- I²C Bus
- Formatter Board
- Switch Mode Power Supply (SMPS) Board

How to Start Up Diagnosis?

1. Push the cursor key ↑ or ↓ to highlight *Diagnosis*. (menu 8-31)
2. Press **ENTER** to select.

The *Diagnosis* menu will be displayed. (menu 8-32)

```

SERVICE
BARCO LOGO
PRESET INPUT BALANCE 1
PRESET INPUT BALANCE 2
ELECTRONIC CONVERGENCE
DIAGNOSIS
DYNACOLOR

Select with ↑ or ↓
then <ENTER>
<EXIT> to return

```

Menu 8-31

```

DIAGNOSIS

I2C
FORMATTER
SMPS

Select with ↑ or ↓
then <ENTER>
<EXIT> to return

```

Menu 8-32

8.13.2 I²C Diagnosis

What can be done?

This info screen will give an overview of the Data, Command and Address status of the I²C controlled IC's (Green box = OK, Red Box = Error, the Box in the printed menu is shown as #).

Following IC's are shown in the I²C info screen.

- Motor Driver
- Light Sensor
- Lamp Driver
- Power Supply
- Formatter
- LCD Driver
- Lamp Module

How to display the I²C Diagnosis screen?

1. Push the cursor key ↑ or ↓ to highlight *I2C*. (menu 8-33)
2. Press **ENTER** to select.

The *I2C* Diagnosis screen will be displayed. (menu 8-34)

3. Press **EXIT** to return to the *Service Mode* menu.

```

DIAGNOSIS

I2C
FORMATTER
SMPS

Select with ↑ or ↓
then <ENTER>
<EXIT> to return

```

Menu 8-33

```

I2C DIAGNOSIS

D C A
-----
MOTOR DRIVER      1AH # # #
LIGHT SENSOR       1CH # # #
LAMP DRIVER        20H # # #
POWER SUPPLY       30H # # #
FORMATTER          34H # # #
LCD DRIVER         88H # # #
LAMP MODULE        A0H # # #
-----
# # #

Scroll with ↑ or ↓
<EXIT> to return

```

Menu 8-34

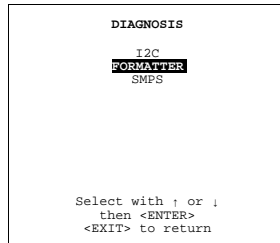
8.13.3 Formatter Diagnosis

What can be done?

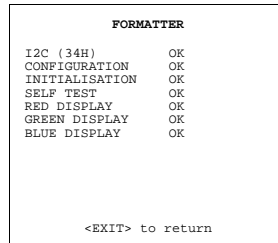
This info screen will give an overview of the status of the Formatter board.

How to display the Formatter Diagnosis screen?

1. Push the cursor key ↑ or ↓ to highlight *Formatter*. (menu 8-35)
2. Press **ENTER** to select.
The *Formatter* Diagnosis screen will be displayed. (menu 8-36)
3. Press **EXIT** to return to the *Service Mode* menu.



Menu 8-35



Menu 8-36

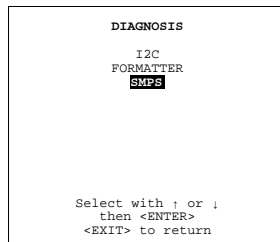
8.13.4 SMPS Diagnosis

What can be done?

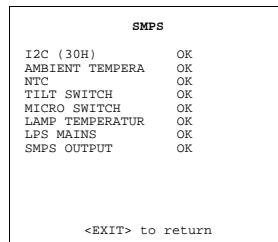
This info screen will give an overview of the status of the Switch Mode Power Supply (SMPS) board.

How to display the SMPS Diagnosis screen?

1. Push the cursor key ↑ or ↓ to highlight *SMPS*. (menu 8-37)
2. Press **ENTER** to select.
The *SMPS* Diagnosis screen will be displayed. (menu 8-38)
3. Press **EXIT** to return to the *Service Mode* menu.



Menu 8-37



Menu 8-38

8.14 DynaColor™



This menu item is only usefully when working with a multichannel setup.

To connect the projectors follow the same guidelines as discribed in Constant Light Output.

In a Linked CLO and/or Dynacolor™ setup a maximum of 14 projectors can be linked, all projectors must have a different projector address between 0 and 13 and all projectors must have the same baudrate.

What can be done?

DynaColor™ will eliminate channel-to-channel color variations.

How to define color?

The CIE chromaticity diagram is one way to plot the colors the human eye can see.

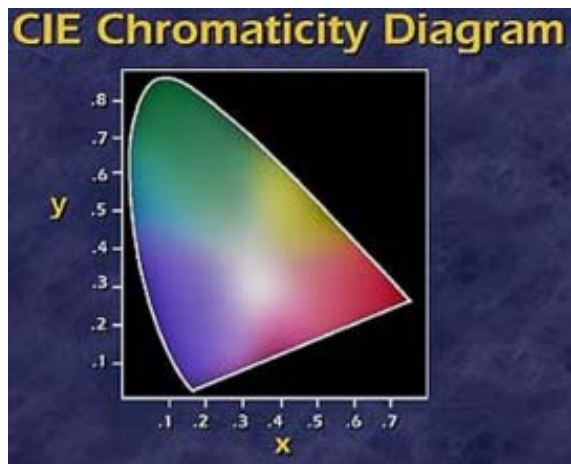


Image 8-1

A projector can only reproduce a certain color gamut within this diagram. This color gamut is defined by the triangle formed by the x, y coordinates of Red Green and Blue. These parameters are used by the DynaColor™ adjustment in the Barco Galaxy WARP™.

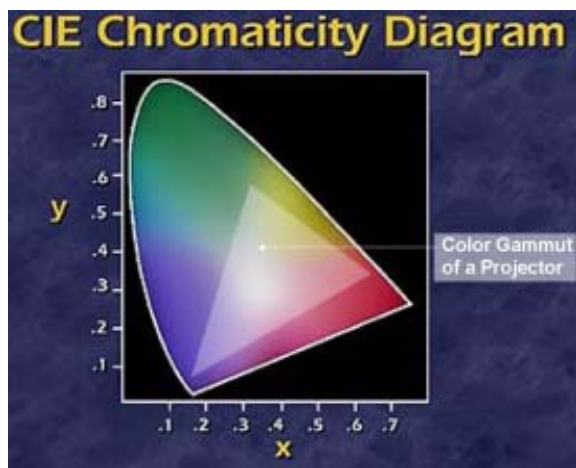


Image 8-2

Due to the tolerance on optical components the x, y values of this color gamut of each projector will differ.

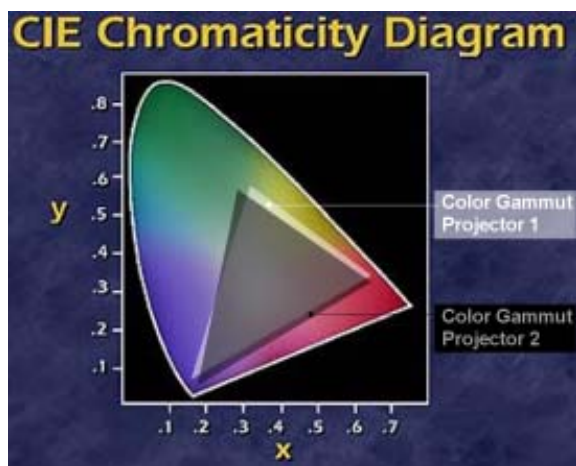


Image 8-3

When working with a multichannel setup, these color differences between different projectors can be smoothed out by matching the color gamuts of the different projectors to a Common Color Gamut.

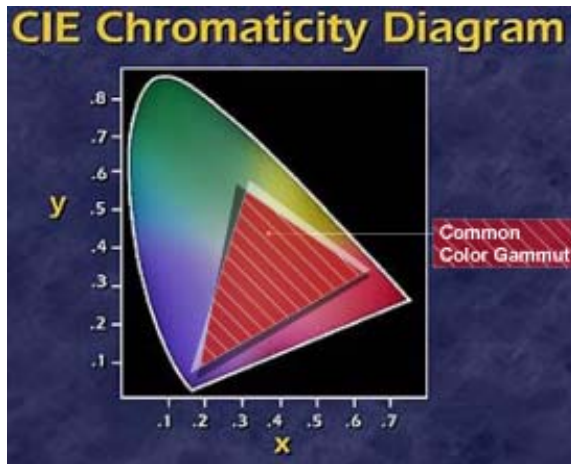
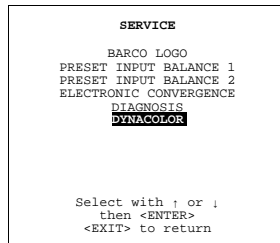


Image 8-4

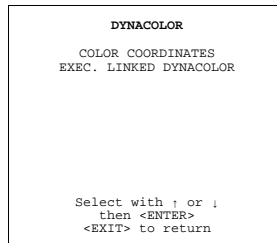
How to Start Up DynaColor™?

1. Push the cursor key ↑ or ↓ to highlight *Diagnosis*. (menu 8-39)
2. Press **ENTER** to select.

The *DynaColor* menu will be displayed. (menu 8-40)



Menu 8-39

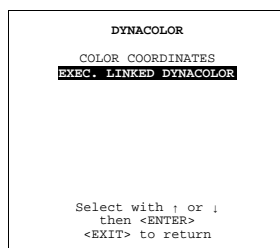


Menu 8-40

How to Execute the Linked DynaColor™ command?

1. Push the cursor key ↑ or ↓ to highlight Exec. Linked DynaColor™. (menu 8-41)
2. Press **ENTER** to execute.

This will execute the Linked Dynacolor™ command, all projectors in the linked setup will be set to their Common Color Gamut.



Menu 8-41

A. STANDARD SOURCE FILES

A.1 Table overview

Table overview

The following standard source files are pre-programmed in the projector.

Name ⁴	Resolu- tion ⁵	Fvert Hz ⁶	FHor kHz ⁷	Fpix MHz ⁸	Ptot ⁹	Pact ¹⁰	Ltot ¹¹	Lact ¹²
1600_60v	1600x1200	60,000	75,000	162,000	2160	1600	1250	1200
ews_50	1280x1024	50,000	52,350	87,948	1680	1280	1047	1024
ews_60	1280x1024	60,000	63,900	107,352	1680	1280	1065	1024
svga_60v	800x600	60,317	37,879	40,000	1056	800	628	600
vga_gr	640x480	59,941	31,469	25,175	800	640	525	480
xga_60	1024x768	60,000	48,360	64,996	1344	1024	806	768
sgi_108v	1280x1024	108,000	112,676	164.145	1460	1280	1041	1024
sgi_110v	1280x1024	110,000	114,286	167.160	1464	1280	1038	1024
hp_100v	1280x1024	100,000	108,108	187.488	1728	1280	1085	1024
sxga_96s	1280x1024	96,000	104,000	167,885	1600	1280	1093	1024
sxga_114s	1280x1024	114,000	124,600	199,363	1600	1280	1093	1024
xga_96s	1024x768	96,000	77,500	99,164	1280	1024	807	768
xga_120s	1024x768	120,000	96,700	123,955	1280	1024	807	768

Table A-1

4. Name: name of file, contains the settings.
5. Resolution: image resolution, when followed by ..i means interlaced.
6. Fvert Hz: vertical frame frequency of the source
7. FHor kHz: horizontal frequency of the source
8. Fpix MHz: pixel frequency
9. Ptot : total pixels on one horizontal line.
10. Pact: active pixels on one horizontal line.
11. Ltot: total lines in one field
12. Lact: active lines in one field.

INDEX

Numerics/Symbols

% of image 96
 %% of image 96
 800 Peripheral 125
 800-Peripheral 125
 Starting Up 125

A

Address 42
 Common 42
 Projector 42
 RCU 42
 Adjustment 44
 Local LCD Display 44
 Asynchronous 117
 Mode 117

B

Background 121, 137
 Barco Logo 137
 Color 121
 Changing 121
 Barco 136–138
 Logo 136–138
 Background 137
 Hot Key 138
 Shift 138
 Starting Up 136
 Status 137
 Baudrate PC 133
 Change 133
 Blanking 94–96
 Active mode 95
 Shape 95–96
 Adjustment 96
 Selection 95
 Start up 95
 Start up 94
 Blanking (Windowing) 62
 Box 7
 Content 7

C

Change 131
 Password 131
 Coarse 71–72, 74, 76, 78
 Center 78
 Adjustment 78
 Selection 78
 Corner 71–72
 Adjustment 72
 Selection 71
 Side Bow 74, 76
 Bow shaped pre-distortion 76
 Coarse linearity adjustment 76
 Selection 74
 Start up 71
 COM800 Protocol 126
 Common 133
 Address 133
 Changing 133
 Common Address 42
 Communication 23, 125
 Connections 23
 Protocol 125
 RCVDS05 125
 Configuration 11, 29, 126
 Single CADWall 29

Connections 19–21, 27–28, 36
 Communication 27
 peripherals 27
 Input 21
 Power 19
 Stereo 27–28
 Multi-Channel 28
 Single Channel 27
 Switching off 20, 36
 Switching On 19
 Constant Light Output (CLO) 135
 Content 7
 Controlling 42
 Projector 42
 Convergence 139
 Electronic 139
 Copy 54
 File 54

D

Dark 114
 Time 114
 Delete 55
 File 55
 Diagnosis 140–142
 Formatter 141
 I²C 141
 SMPS 142
 Starting Up 140
 Dimensions 7
 DynaColor™ 142, 144
 Starting Up 144

E

Edit 49–50
 WARP1 49
 WARP2 50
 Edit WARP2 53
 File 53
 Electronic 139
 Convergence 139
 Electronic Soft Edge (Optional) 97

F

File 47–48, 53–56
 Copy 54
 Delete 55
 Edit WARP2 53
 Load 48
 Options 56
 Rename 53
 Service 47
 File Service 47–48, 50–51
 Annotation 47
 Edit 50–51
 Change settings 50
 Values 51
 Manipulations 48
 Starting Up 48
 Fine 83–91
 Bow Linearity 86–87
 Adjustment 87
 Selection 86
 Horizontal Linearity 84–85
 Adjustment 85
 Selection 84
 Local 90–91
 Adjustment 91
 Selection 90

- Quadrant 88–89
 - Adjustment 89
 - Selection 88
- Start up 84
- Vertical Linearity 84–85
 - Adjustment 85
 - Selection 84
- Forced 117
 - Asynchronous 117
- Forced Asynchronous 117
 - Mode 117
- Formatter 141
 - Diagnosis 141
- Fuses 19

G

- Gamma 57
- Geo Soft Edge 66
- Geometry 66–67, 70–71, 79, 83, 106
 - Edit 70–71, 79, 83
 - Coarse 71
 - Fine 83
 - Introduction 70
 - Linearity 79
 - Start up 71
 - Introduction 67
 - Reset 106
 - Starting Up 67
- Geometry file 67–69, 109–110
 - Copy 110
 - Delete 110
 - Edit 69
 - File annotation 67
 - Load 68
 - Manipulations 68
 - Rename 109
 - Setting up 67
- Geometry Reset 106–108
 - All 108
 - Blanking 107
 - Coarse 106
 - Fine 107
 - Linearity 107
 - Soft Edge 107
 - Start up 106
- Getting 33
 - Started 33
- Getting Started 33, 35–36
 - Operating the projector 35
 - RCU & local keypad 33
 - Switching On 35
 - Temperature error DMD 36

H

- Hardwired Remote Input 41
- Hot Key 138
 - Barco Logo 138

I

- I²C 141
 - Diagnosis 141
- Identification 130
 - Screen 130
- Input 21, 41, 120
 - Connections 21
 - Hardwired Remote 41
 - Slots 120
- Input 1 21
- Input 2 22
- Input 3 27
- Input Balance 58, 61, 138

- 1 58, 138
 - Preset 138
- 2 61
- Input Facilities 21
- Input Selection 43
- Installation 9, 120
 - Guidelines 9
 - Starting Up 120
- Installation Guidelines 9–10, 14, 16, 18
 - Ambient Temperature 9
 - Battery Installation 18
 - Condition Check 9
 - Environment 9
 - General 9
 - Lamp positioning 14
 - Laser Beams 10
 - Lenses 16
 - Screen Type 10
 - Z-axis adjustment 14
- Installation Mode 119
 - Overview 119
- Internal 127
 - Patterns 127
- Invert 112
 - Stereo 112
- IR 38, 40
 - Communication Leds 40
 - Sensors 38
- IR Communication Leds 40
- IR Sensors 38

L

- Lamp 20, 134
 - Menu 134
 - Starting Up 134
 - Run time 20
- Lamp Menu 134
- Lamp Mode 136
- Left/Right Phasing Module 27
- Lens 16–17, 36, 123–124
 - Adjustment 123
 - Starting Up 123
 - Cleaning 17
 - Focus 123
 - Adjustment 123
 - Quick 36
 - Adjustment 36
 - Selection 16
 - Shift 124
 - Adjustment 124
 - Zoom 123
 - Adjustment 123
- Lenses 16–17
 - Available lenses 16
 - Formulas 16
 - installation 17
- Linearity 79–80, 82
 - Adjustment 80, 82
 - Horizontal 80
 - Vertical 82
 - Selection 80
 - Start up 79
- Linked 23
 - System 23
- Load 48
 - File 48
- Logo 136–138
 - Barco 136–138
 - Background 137
 - Hot Key 138
 - Shift 138
 - Starting Up 136
 - Status 137

M

Master 113
 Channel 113
 Menu 124
 Position 124
 Changing 124
 Mode 136
 Multi-Channel 28
 Stereo 28
 Connections 28
 Multiple CADWall 30
 Showroom Installation 30

N

No Signal 121
 Starting Up 121

O

Operating the projector 35
 Options 56
 File 56
 OSD 127
 Color 127
 OSD Color 37
 Quick 37
 Change 37

P

Packaging 7
 Lens 7
 Password 131
 Change 131
 Patterns 127
 Internal 127
 Picture 43, 57
 Controls 43
 Tuning 57
 Start Up 57
 Picture Controls 43
 Pixel 72
 Position 10
 Projector 10
 Preset 138–139
 Input Balance 138–139
 1 138
 2 139
 Projector 10, 42, 131–132
 Address 131–132
 Change 131
 Changing 132
 Controlling 42
 Position 10
 Projector Address 42, 132
 Change 132
 Starting Up 132

Q

Quick Set Up 36
 Adjustments 36

R

Random Access 45–46
 Start Up 46
 Random Access Overview 45
 RCU 33, 38, 40–41
 Hardwired Remote 41
 Point 38, 40
 IR Sensors 38
 Reflective Screen 40

Terminology 33
 Overview 33
 Using 38
 RCU Address 42
 RCVDS05 23
 Connections 23
 Reflective Screen 40
 Rename 53
 File 53
 RS232 27
 Connection 27
 RS422 27
 Connection 27

S

Safety Area 13
 Safety Instructions 5
 FCC statement 5
 Note 5
 Warnings 5
 Service 130
 Starting Up 130
 service mode 129
 build-up 129
 Service Mode 129
 Overview 129
 Set Up 28
 Stereo 28
 Shift 92, 138
 Barco Logo 138
 Shift (Windowing) 64
 Showroom Installation 30
 Multiple CADWall 30
 Shutdown 122
 Setting 122
 Changing 122
 Shutdown Time 122
 Setting 122
 Changing 122
 Single CADWall 29
 Configuration 29
 Single Channel 27
 Stereo 27
 Connections 27
 Size (Windowing) 65
 SMPS 142
 Diagnosis 142
 Soft Edge 97–101, 103–104
 Active mode 99
 Introduction 97
 Preparations 98
 Shape 99–101
 Basic Set up 101
 Selection 100
 Start up 99
 Start up 99
 Width 103–104
 Basic Set up 104
 Selections 103
 Start up 103
 Standard Source Files 145
 Status 137
 Barco Logo 137
 Stereo 27–28, 111–112, 114
 Connections 27–28
 Multi-Channel 28
 Single Channel 27
 Invert 112
 Mode 114
 Options 111
 Starting Up 111
 Phase 111
 Set Up 28
 Subpixel 72
 Switching off 20, 36

Switching On 19, 35
Switching to standby 20, 36
Synchronous 117
 Mode 117

T

Temperature 9
 Ambient 9
Transport Delay 92

W

WARP1 49

 Edit 49
WARP2 50
 Edit 50
Windowing 61–62
 Blanking 62
 Start Up 62

Z

Z-axis adjustment 14

Revision Sheet

To:

► **Barco nv Simulation Products**
Noordlaan 5, B-8520 Kuurne
Phone: +32 56.36.82.11, Fax: +32 56.36.84.86
E-mail: info@barco.com, Web: www.barcocom

From: _____

Date: _____

Please correct the following points in this documentation (**R5976570/01**):

page	wrong	correct